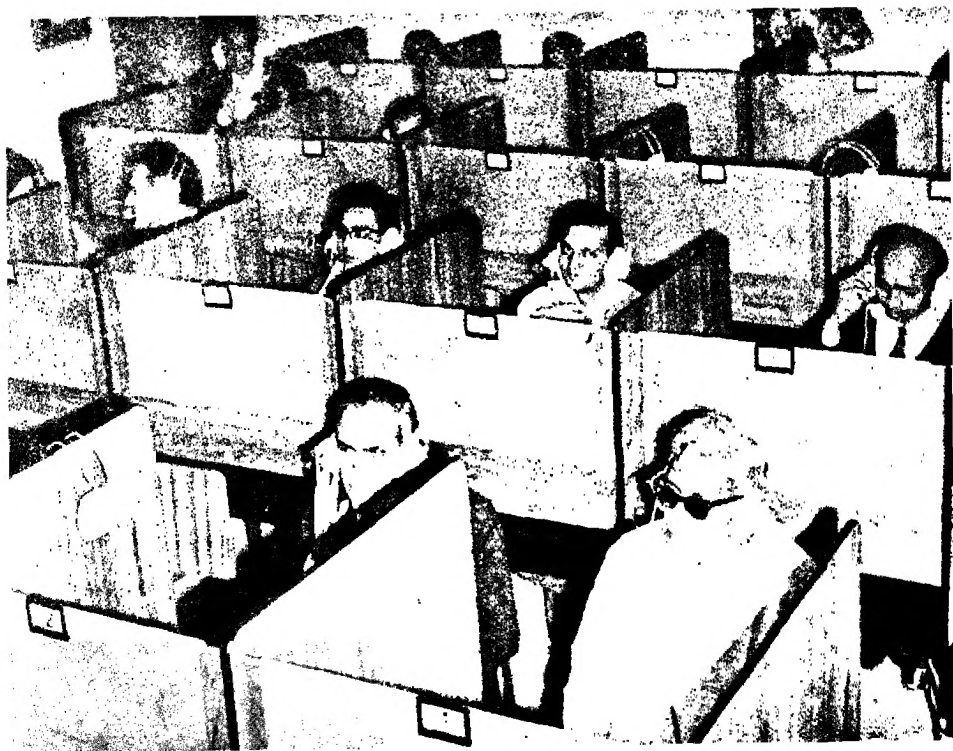


University news

A CHRONICLE OF HIGHER EDUCATION & RESEARCH APRIL 16, 1977 80 PAISE



Teachers working at the Language Laboratory recently inaugurated at the H. M. Patel Institute of English, Vallabh Vidyanagar.

UNIVERSITY NEWS

Vol. XV

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1977

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Editor : ANJNI KUMAR

Youth Activities in Universities

J. D. Sharma*

Youth is the most vital organ of social framework. Like an atom of power youth may be utilised both for productive and destructive purposes. Whereas a disciplined and dedicated youth may ensure the needed socio-economic development, an indisciplined and irresponsible youth may bring incalculable harm, even chaos to society. It becomes, therefore, the responsibility of centres of learning to cast the youth in the mould of social responsibility and to harness their latent energies towards building a happy and healthy social order in which social equality is practised without distinction.

This is all the more applicable to conditions in India. Ours is a developing country which, after shaking off the alien rule lasting over quite a few centuries, is now set on the path of achieving a just social and economic order for its teeming millions. Our resources, compared to the more advanced countries of the world, are limited. We are also wanting to achieve the progress which other countries have attained over the centuries in a matter of decades and years. The real answer to this gigantic problem lies in harnessing the youth of the country in the great task of reconstruction, social, economic and all the rest. In the light of these facts it becomes the bounden duty of the centres of learning to prepare a recipe of such academic programmes and other activities as may equip the youth with the requisite physical and mental qualities so that they may effectively undertake the task of restructuring the society and become a positive force for achieving the cherished social and economic objectives.

This discussion raises an important question: "What should be the pattern of Youth activities which could ensure the quick achievement of the twin objective, viz., the development of the latent qualities of the students' personality on the one hand and the socio-economic transformation of the dormant Indian Society on the other". These activities should, to my mind, fall under two broad heads:

1. Physical and health fitness through games, sports and cultural activities; and
2. Development of a mental attitude which would enable the youth to place the social good above personal gain & convenience.

Physical and health fitness should constitute an integral part of youth activities in all educational institutions, right from school to the post-graduate level. Every student should be required to attain a minimum level of physical fitness so that he could pass at least "one star test". He may also be encouraged to pass "two or three star tests". The programme of physical and health fitness should form an inbuilt part

*Vice-Chancellor, University of Jammu.

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of co-curricular activities in all institutions. This may be in the form of NCC, National Fitness Scheme, Games Sports and cultural activities. It goes without saying that what the student can learn on the playground and through these other activities cannot be acquired anywhere else.

I would go a step further and say that the educational institutions should take steps in the direction of making games and sports compulsory. Our neighbouring state, Punjab, has already done it.

The concept of games and sports should change in the light of resource limitations. Every institution does not have adequate playfields nor even money resource to meet the requirements of extensive games like cricket, hockey etc. Some alternative games such as kabaddi, koh-kho, volleyball or even basketball may be encouraged which in addition to providing all the advantages of big games, are less expensive and need less space and perhaps not much of expertise. Yogic exercises may also be included in this category which are equally beneficial for the physical and mental health of the student.

Side by side with these physical activities the youth must be taught from the very beginning that State property should be respected even more than individual property for the simple reason that the State property is put to use by the entire society while individual property is used only by a few individuals. When this sort of feeling is inculcated amongst the students at an early age no one would even think of putting on fire a State bus or a State building when there is a strike or commotion. The socialistic pattern is primarily based on the concept of cooperative effort as against mere individual enterprise. Students have to be initiated into this pattern of thinking and working right from the nursery school stage. This can be done through a number of group activities including group singing. The whole perspective of history also changes under such a pattern. For instance, the Historian would then say that the Taj Mahal was built not by Shah Jahan (who did not lay a single brick) but by the thousands of labourers and masons who toiled hard for years at end to raise this beautiful monument.

Having grafted these basic physical and mental outputs and attitudes through the educational system the youth must then be made active partners in the programme of socio-economic development.

Every college or university student should be enrolled as a volunteer in the programme not only of rural reconstruction but also in solving the problems of modern urbanisation. Separate programmes may be chalked out for separate groups of students suiting their aptitude and ability. Some for example may be involved in the construction of roads and buildings, some in public hygiene, a number of them in agricultural operations and in adult education. This last should include formal or informal talks on various anti-social customs and practices still prevalent in our society, as for example, untouchability, dowry, population explosion etc. This does not require any

separate organisation. The National Service Scheme may be fully pressed into service and where necessary restructured by way of incorporating the time-bound programmes referred to above. A beginning has already been made in this regard in Jammu University. About 1500 students are being enrolled under the National Service Scheme during the session 1976-77. At present the scheme is in operation in the university teaching departments and all the affiliated colleges of the University. Each institution has adopted a village for their activity. These activities cover various aspects of social and economic development, such as cleanliness drive, child and adult education, agricultural operations, construction of roads etc.

The work for each village or a cluster of villages or slum area in a town may be chalked out well in advance in consultation with the local populace and the local authorities. There should be proper record of the work allotted to each student or group of students and of the task completed by them. On the basis of this performance the student should get credit in the examination.

The time, indeed, has come when social work may be made compulsory for each student. Unless he performs at least two months of social work in accordance with the prescribed norms, he should not be awarded the final University degree. In this way each student shall have to put in about one year of social service within six years of his student career. During these twelve months he will develop in him a sense of dignity of labour, the elements of self-help, mutual understanding, leadership qualities and even decision making ability which will lay firm foundation for the success of his future career. This will also provide immense satisfaction to him which will continue to be a moving force behind all his activities.

Another field of activity in which students in universities and colleges could participate with advantage is the management of various curricular and co-curricular programmes and policies, more importantly the latter. The participation of students in the decision-making bodies of a University is still a subject of debate and has yet to be given a fair trial but there can be no two opinions about their meaningful participation in activities like running the hostel mess and canteen, book shops and cooperative shops for articles of daily consumption, organisation of sports and cultural activities in the University, purchase of library books, framing of time-table, maintenance of discipline on the campus and participation also in University bodies like the Academic Council. This would help our young men and women develop a sense of involvement and belonging to the institution where they are studying and should stand them in good stead in their future life.

A note of caution needs to be sounded at this stage. It has been noticed that when young men and women from the urban areas go to their less fortunate brethren in the rural areas or in city slums they sometimes try

(Continued on Page 230)

Defence Studies As an Academic Discipline

R. N. Misra*

"If you wish for peace understand war". This famous saying of a renowned military thinker Liddell Hart is the guideline for the subject of Defence Studies. War plays an important role in the life of a nation. It shapes the destiny of its people. In the past, it has played dominant role in the rise and fall of various civilizations. History of mankind is the history of wars. Without proper study of war, human history will remain incomplete. If one studies world history of the last 4000 years one will realise that out of this long period there are only 160 years of peace. Rest of the period is the period of one war or another. Most of the important inventions in human history took place only to support wars. Prof. Gordon Childe rightly observes that the first use of metal was for weapons rather than for tools.

This establishes the universality and importance of wars. The importance of the study of wars can be further enumerated in the words of a Chinese military thinker Sun Tzu, who wrote :

"War is a great affair of state
the realm of life and death
the road to safety or ruin
a thing to be studied with extreme—diligence".

Since war has its various economic, political, social and psychological aspects, such study became very complicated and interdisciplinary in character. Since time immemorial its study as an instrument of statecraft had been done by various scholars. In India Kautilya and in China Sun Tzu have been prominent scholars of the ancient period.

In medieval and modern times such study remained confined to the Western world. They tried to study war in the academic frame-work. Therefore, they could produce such renowned military thinkers like Machiavelli, Clausewitz, Jomini, Liddell Hart, Fuller, Douhet and Mahan. Our country remained far behind in this field. Even in the field of military history, the West had taken a great lead.

Defence Studies in Foreign Countries

This subject is introduced for academic study in colleges and universities of various countries of the world under varying nomenclatures like war studies, defence studies, strategic studies, military history and military studies.

According to the report published by the Institute of Strategic Studies, London, in 1970, the subject then flourished in 33 countries of the world, including Australia, Britain, Canada, the U.S.A., France, Germany and Japan.

Kings College of London University is offering postgraduate, M.Phil and Ph.D. courses in war studies. Oxford University of Britain has shown great interest in Strategic Studies and Military History. It has set up a Chichele chair for Military History. The works of Prof. Norman Gibbs and Prof. Michael Howard are well known to those interested in the political aspects of strategy.

Six universities in Canada are running various courses of Military History, Strategic Studies and Defence Studies.

In some countries "Institutes of Strategic Studies" have been opened to collect, collate and analyse strategic information. Such institutes serve as a non-official civilian source to provide near authentic information on delicate and sensitive military matters. The International Institute for Strategic Studies, London, is one of the most famous among them.

Since 1975, Pakistan has also introduced Military Science, Civil Defence and First Aid as a compulsory subject for the higher secondary and college students. In China, even Nuclear Civil Defence is a part of general education in colleges and universities.

Defence Studies in Indian Universities

This subject is taught in various colleges and universities of India mainly under three nomenclatures i.e. Defence Studies, Military Studies and Military Science.

As many as 23 universities in U.P., M.P., Maharashtra, Haryana and Punjab have introduced this subject as one of the elective subjects in the curriculum of the undergraduate classes in more than 350 colleges working under their jurisdiction. Only 7 universities : Allahabad, Jiwaji (Gwalior), Poona, Meerut, Kanpur, Gorakhpur and Punjabi University have introduced a postgraduate course in the subject.

Jawaharlal Nehru University (Delhi) offers a M.Phil course in Disarmament Studies under the School of International Studies.

Recently Madras and West Bengal have also shown some interest in introducing the subject in their colleges and universities.

Other than Universities, India has one civilian institute "The Institute of Defence Studies and Analysis" which publishes monthly and quarterly journals for news of strategic interest and feeds newspapers and journals in India and abroad with their articles and research papers dealing with defence and strategic problems.

*Lecturer, Punjabi University, Patiala.

Topics Covered Under this Subject

The following topics are mainly covered by various universities of India under this discipline.

- (a) Nature, origin, features, future and control of war.
- (b) Military History or History of warfare.
- (c) Problems of national security and their solutions.
- (d) Elements of modern war or contemporary problems of war — (nuclear, guerilla, cold wars, arms race and disarmament).
- (e) International laws of war and neutrality particularly).
- (f) International relations.
- (g) Geo-political and military studies of some important areas like China, West Asia and Pakistan.
- (h) Military Psychology.
- (i) Defence Management.
- (j) Higher Defence organisation, organisation of armed forces, their arms, equipments and role.
- (k) Military Geography.

Universities choose the topics for the curriculum in Defence Studies, mostly out of this list according to their concept of the subject and choice.

Utility : Modern wars are total and fought with entire national resources, i.e., human, moral and material resources. Both civilians and soldiers have to share responsibility in war. Therefore, it is imperative to educate civilians with the nature of war and its impact over society and nation. Such education will prepare them mentally to face various problems of war boldly, courageously and promptly and prepare them for making necessary sacrifices in any such an eventuality.

Maj. Gen. D. K. Palit supports the idea in the following words in his book "Essentials of Military Knowledge"—"In a future conflict success in higher direction of war as well as in national policy making will depend to a great extent upon the combined contribution of military experts, scientists and intellectuals. If this contribution is to be significant it is essential that a degree of their knowledge of the mechanics and the process of war be made a part of the general educational system."

Similar views have been expressed by our former Defence Secretary, Mr. S. S. Khara in his book "Defence Problems of India"—"Defence Studies far from being an isolated and reserved territory of Generals and Services Head Quarters, involves statecraft in its highest form and national defence is the concern not merely of national government. It is concern of the nation as a whole".

In a democratic country like India, such education would play an important role where public opinion can influence the process of policy making including defence policy.

Such education has special utility to our younger generations and youth who will have to face future war which may be much more furious and devastating. On their shoulders rest the security of our nation. It needs their understanding and support as

soldiers or civilians in any such eventuality. Universities and colleges could play a significant role in making them not only socially aware but also defence conscious.

The growth of this discipline in our country is a bit unplanned and unsatisfactory due to lack of interest of our educationists, administrators and scholars. This field was considered useful for only few professionals. Since the 1962 Chinese aggression, there is considerable change in our thinking and outlook. Now since many scholars, journalists, retired army officers and defence secretaries have shown interest in this field and published a large number of books related to different defence matters. The Indian Institute of Defence Studies and Analysis was founded thereafter and a few universities and colleges started such subjects like Defence Studies, Military Science and Military Studies at the postgraduate level to study them in depth.

As opposed to the policy of keeping people in dark in defence affairs it was considered useful to inform them regarding the various aspects of national security to ensure their understanding and willing support. The approach was well in line with democratic traditions of our country.

Scope: The postgraduate degree in the subject offers so far scope in research in the fields of military history, strategic studies and in various socio-political and economic problems of war. In colleges and universities, its postgraduates stand chances of their absorption as teachers. Army education corps recognises its degree for commission in that corps, whenever a vacancy falls. With some training in journalism students of this subjects could contribute a lot towards 'defence journalism.'

U. P. included this subject in the list of subjects for the State Civil Services Competitive Examinations, (PCS) for various posts within the province. In Punjab this issue is under consideration. The subject keenly awaits its inclusion in the list of subjects prescribed for the UPSC competitive examinations like the NDA, IMA and IAS. Jawaharlal Nehru University has recognised the post-graduate degree in the subject for admissions to various M.Phil courses in the Area Studies in the School of International Studies.

The Department of Defence Studies, Punjab University, Patiala, has introduced a novel scheme of preparing our youth for various competitive examinations like the NDA and Combined Defence Services examinations along with academic study of the subject. It also proposes to run a course of 10 days: twice a year to teach students important aspects of personality tests, intelligence tests; group discussions and group tasks. It is making a keen effort in inculcating in its students officer-like qualities through lecturing and interviews based on general knowledge and current affairs.

With little planning and incentive this subject could show its vast potentialities in achieving a healthy trend in military thinking and make the younger generation well aware towards defence problems, defence preparedness and their subsequent role as an enlightened citizen.

Grading of Restructured Examinations

V. Natarajan*

Some Universities as a part of implementation of Examination Reform Plan circulated by the University Grants Commission, have restructured the pattern of their question papers in various subjects and many other Universities are on their way to implement restructured pattern of question papers. Nearly 40 Universities in the country are adopting 7 point scale Grading System. First of all in their Post-graduate examinations and a year later in Under-graduate examinations also. In most of the cases, the restructuring of their question papers is in the form of:

Part A: Objective type questions (constant alternative, Multiple Choice/Multiple facet, matching and rearrangement kinds).

Part B: Short answer questions (simple question, completion short answer, short problems)

Part C: Long answer questions.

Invariably part A will have 30 Multiple choice questions, Part B 10 short answer questions and one essay question in Part C. Part A will carry 30 marks and for 30 minutes; Part B 50 marks for 120 minutes and Part C 20 marks for 30 minutes. An important feature of such a restructured pattern is that compared to present practice, it increases the number of questions to be answered by students quite significantly. With forty odd questions, it is possible to cover the entire syllabus adequately and to include all the important objectives which is simply not possible when student answers five or six questions. The content validity of such a restructured paper is pretty high and the general overall reliability very much improved. There is better objectivity in the paper generally. The accepted 7 point scale grading system in various Universities in the country is as follows.

	Points
O outstanding	6
A very good	5
B good	4
C average	3
D below average	2
E poor	1
F very poor	0

Most of the Universities have decided to adopt 'direct grading'. Madurai University has even developed in a few subjects models of answers of different grade categories to a single question. Some Universities have also decided to continue with the percent marking and then convert these marks into grades with the help of Normative Standard Tables prepared one each for each subject based on the results of the last 3 years of students in the same subject. Two distinct methods of conversion have emerged.

one is suggested by University Grants Commission and the other by the Association of Indian Universities. A comparison of these two methods in respect of Under-graduate examinations of a University has been made and it is concluded that while the University Grants Commission method is simple, it involves over grading to varying degrees while the Association of Indian Universities method is a bit complicated but it does not involve overgrading. It is strongly felt that such an arrangement for conversion of marks to grades is only a transitory arrangement and that within a couple of years, Universities operating a grading system will do well to switch over to 'direct grading'. The aim of this paper is to suggest a system of grading such a restructured examination with objective and subjective questions. The method suggested is quite practicable and can be handled by either controller's unit of special Examination Units in these Universities. In many cases, it will be necessary to have a recourse to a digital computer.

System of Grading

Let us take that a typical restructured paper in a subject consists of

Part A Objective type item: 30 nos. 30 marks max. & 30 mints.

Part B Short Answer type questions 10 nos. 50 marks max. & 120 mints.

Part C Long Answer type questions 1 no. 20 marks max. & 30 mints.

Total	41	100 marks	180 mints.
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There may be variations in the number of questions, marks allotted and times set apart, in respect of certain other subjects. The method proposed can be still applied in all such cases.

Parts A, B, & C are to be answered by students separately and marked or graded by examiner's also separately.

It is suggested that Part A be marked with respect to marks and Part B and Part C question wise graded. This is because Part A consists of items which have *one and only one predetermined correct answer* and that a student's answer to an item is either *right or wrong* and further that he can be given either 1 or 0 mark accordingly. Let us take that all answers of all students to Part A be marked and assembled and certain Statistical Calculations be done quickly namely Mean of Marks, Standard Deviation. It is also possible to analyse for each item, its facility value and discrimination index. Similarly, Part B, grading questionwise can be adopted, as well for Part C.

*Project Officer (Exams.), AIU

A typical student may return the following:

Part A :

Item No.:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Mark Obtained:

1 0 1 1 0 1 1 1 0 1 0 1 1 0 1 1 1 1 1 1 0 1 1 0 1 0 0 1 1 1

*total 21/30

Part B :

Question No.	1	2	3	4	5	6	7	8	9	10
Marks/Grades Obtained	0	A	A	B	A	B	B	C	B	B

*Questions are all of equal weight

Part C :

Question No.	1
Grade awarded	B

The question is 'what is the overall grade to this student in Parts A, B, and C put together'?

'What is the grade point average'?

'What are the relative weights of these Parts'?

Part A : The student has obtained 21/30. This means that a grade is to be allotted to this mark. In order to do this, let us take that the full range 0-30 marks is made use of and that the Mean, Standard Deviation are calculated from the marks in *Part A* of all students. This is likely to be around 15 from Mean and about 4 marks from Standard Deviation. Even of the reliability of this Part is around 0.9, the SEM is $0.3 \times 4 = 1.2$ marks.

A conversion from marks to grades to this

Part A can be:

27 and above	0 outstanding
24-26	A very good
21-23	B good
18-20	C average
15-17	D below average
12-14	E poor
12	F very poor

On this basis, the student (21/30) obtains a B. An alternative (equally good) will be to mark all students Part A and arrange them in a rank order: the top 3% may be given an 0; the next 7% an A and so on.

3%	0 outstanding
7%	A very good
22%	B good
36%	C average
22%	D below average
7%	E poor
3%	F very poor

This is particularly useful when dealing with large numbers and also scripts have been randomized. It is very likely that this student will obtain B here also.

Part B:

The same student obtains questionwise grades as follows:

Question No.	1	2	3	4	5	6	7	8	9	10
Grade Obtained:	0	A	A	B	A	B	B	C	B	B

The overall grade poor average from Part B is $\frac{6+5+5+4+5+4+4+3+4+4}{10} = \frac{44}{10} = 4.40 - B$.

Part C : The student has obtained a B already by direct grading. It may be necessary to combine the grades individually obtained in Parts A, B and C into an *overall grade* for the student.

Overall Grade Calculation:

The student under consideration obtained in Part A 21/30 this on conversion because a B; in Part B an overall grade of B (4.40) and a grade of B in Part C.

It is usual to take the relative weightages of Part A, Part B and Part C to be dependent on the maximum marks of these Parts i.e. 30:50:20. If one wants to get the time weightages of these parts taking into consideration the ranges of mark-grade in these, then they can be calculated as suggested by Nuttall.

This method of course will require all parts to be marked and standard deviations of all individual parts obtained:

Weightages = $\frac{\text{Standard deviation of that part} \times 100}{\text{Sum of the standard deviation of all parts}}$

Let us take the weightages to be 3:5:2 for these parts A, B and C.

Then the overall grade poor average is

$$\frac{3 \times 4.0 + 5 \times 4.40 + 2 \times 4.0}{10} = \frac{12 + 22 + 8}{10} = \frac{42}{10} = 4.20(B)$$

Conclusions

In calculating the overall grade in an examination paper having a restructured pattern of Part A objective type items, Part B short answer questions and Part C long answer questions, Part B and Part C are straight forward while Part A needs certain interpretations. In this paper an attempt is made to give one possible interpretation and convert marks to grades in Part A. An advantage of this method is that this can be applied to any combination of Part A, Part B and Part C.

Status of Women in Society

The convocation of the S.N.D.T. Women's University this year was delivered by Professor S. Nurul Hasan. The status of women in our society is being rapidly raised. The inequalities between men and women are being quickly narrowed down and women are beginning to play a role of ever-increasing significance in social, economic political spheres. In a dynamic social context of this type, all institutions for the education of women must continually re-appraise their roles and programmes and adjust them to the changing social situations and evolving national objectives.

One of the most significant developments in modern India has been the spread of education among women and the improvement in their social status. At the beginning of the nineteenth century, women had hardly any access to formal education and their social status was extremely unsatisfactory. Tremendous cha-

anges are a key indicator of the modernisation of the Indian society.

In spite of these achievements we cannot ignore the several weak spots that exist in the situation. To begin with, three women out of four are still illiterate. Only six girls are enrolled in primary schools for every ten boys. Wastage rates among girls are larger than those among boys so that there is only one girl for every three boys in secondary schools and only one girl for every four boys in higher education. The secondary and higher education of women is still largely an urban affair and restricted mostly to the upper and middle classes. The social status of women remains unequal and subordinate in several matters in spite of all legislation to the contrary especially because the traditional attitudes of male domination, so characteristic of a paternalistic society, refuse to die out. Even well-meant legis-

lation prevent concepts of this complementarity and the stereo-types of men and women to which they lead, from giving a dominant position to men and a subordinate position to women? What is the precise connotation of the expression: equality of the sexes? In the west, this search for equality has often resulted to women abandoning some of their finest roles and aping the weaker roles and characteristics of men instead. This 'women's lib' movement has been rightly rejected in our country and finds little favour with enlightened Indian women. But what is the alternative expression of equality that we can project and is consistent with our cultural milieu? Which of our traditions are in keeping with the concept of equality of women and need to be preserved and which are against it and need to be rebelled against? What are the changes needed in our social institutions to give equality, justice, freedom and dignity to women? These and other related questions are extremely important and we have to find satisfactory answers to them. The vast programme of re-educating men and women to a proper appreciation of themselves and of their relationship to one another depends entirely on these answers. It is therefore of crucial importance that we should have a few high level institutions which will continually address themselves to this basic and fundamental thinking. This is a task which the university should undertake and it should provide a leadership and guidance to other institutions working in the field.

The second role which the university should adopt is that of a watch-dog and relates to the continuous monitoring of relevant data and periodical evaluation of the programmes being implemented by the Central and State Governments and other agencies to improve the status of women. Ours has been a hierarchical and inequalitarian society for thousands of years and the roots of social inequality go very deep in our midst because they

Convocations

anges have taken place since then and more so after the attainment of independence. Today the total enrolment of girls in all educational institutions is more than forty million. This movement was strengthened by the labours of thousands of social workers both men and women and especially by the participation of women in the national struggle for freedom under the leadership of Mahatma Gandhi and Jawaharlal Nehru. The constitution gave equal status to women in all matters including voting rights. They have, on the whole, attained greater economic independence, child marriages have disappeared and double standards in marriage and divorce are on the way out. In fact, the improvement in the education and status of women stand out as the most important achievements of our renaissance

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lation like divorce laws often works out to the detriment of women in real life. The various aspects of this unhappy situation have been highlighted by the Committee on the Status of Women in India. A careful perusal of the report will show that we still have a long way to go if we desire to convert the *de jure* equality which the constitution confers on women into a *de facto* one. In a situation of this type, what is the role of an institution like the SNDT University which is exclusively devoted to the education of women. The first and probably the most significant role is that of a thinker and relates to conceptualization. What are the proper roles of women in society and how are they related to those of men? The complementarity of their roles is universally agreed but how can we

have been sanctified and legitimized by religion and philosophy. The struggle to create a new social order based on freedom, equality, justice and dignity of the individual is therefore far from easy and the inequality between the sexes, which is the most deep-rooted of all inequalities, will probably be the last inequality to disappear. Under these circumstances, we need several institutions which will play the role of a watch-dog and strive continuously to interpret social changes to determine what precisely is happening to the status of women and whether women are moving towards equality or away from it.

The third important role is that of extension which will enable you to reach out to that large mass of women who lie outside the scope of all our educational efforts at the moment. But by its very nature, the university like this can reach out only to a limited social group and as things stand at present your alumni come mostly from the upper and middle classes in the urban areas. Social group was justified and even necessary in the past when education among women was extremely limited, one sees little justification for the continuation of that policy in the years ahead. Today we have a curious situation in our midst. The women who are receiving secondary and higher education form only about five per cent of the corresponding age-group and come mostly from urban areas and the upper and middle classes. They are being driven to seek employment for financial reasons. But they all want to continue to work in urban areas only and also want white-collar jobs. Quite obviously such jobs are few and as competition from men is also becoming more intense, unemployment and frustration is growing among educated women. On the other hand, large numbers of women are required as teachers, doctors, nurses, midwives, industrial entrepreneurs etc. to work for the uplift of the vast mass of uneducated women in urban and rural

areas. But no such workers are available so that the lot of these women continues to be miserable. This situation of simultaneous coexistence of unemployment among educated women on the one hand and dearth of social workers to ameliorate the condition of mass women on the other is almost tragic and cannot be allowed to continue. We must develop a two-fold programme to remedy this situation. Our recruitment rules and employment policies should be changed to suit the needs of women who have certain unavoidable family responsibilities. Part-time employment, for instance, should be adopted on a large scale and it should be adequately remunerated on the same basis as full-time employment. There should be an earnest effort to utilise the talents and energies of educated housewives for community service in their neighbourhoods and so on. Side by side, educational institutions should develop large scale programmes of extension and social service, involving their teachers and students. They should establish contacts with the women of the poor and lower classes in the community around and organise extension work and social service programmes in education, health, child welfare, family planning and development of vocational skills to increase earning capacity. This extension work can be advantageously developed through and side by side with programmes of literacy and non-formal education. These activities can help us to bridge the gulf between the educated and the uneducated women.

The fourth role is that of making women basically free and is related to the spread of science and technology in society. Women, by their very biological structure, have been handicapped by the responsibility to bear children and this deprives them of considerable freedom if child birth is uncontrolled. Over the ages we have also created social structures which confine women to the home and fill their lives with endless domestic chores which

entail untold drudgery. Women have thus become culinary and sexual conveniences for men and lost their freedom through the compulsory burdens of house-making and child-rearing. In modern times, they have been reduced from both these handicaps by science and technology. On the other hand science and technology have introduced ready-made foods, kitchen gadgets, washing machines, vacuum cleaners and other culinary and domestic conveniences which have reduced the drudgery of home-making. For that very reason men have also begun to share it, thus reducing a woman's drudgery further. Similarly, science and technology have taught and enabled women to control child birth and saved them from the drudgery involved in mothering child after child.

The fifth important role is that of communication and is related to the spread of relevant knowledge among all the men and women in this country. The traditional ideas of the inequality of the sexes are ingrained in each individual in the very process of socialization. Some university centres should devise suitable materials for the use in schools and non-formal programmes and teachers trained in an appropriate fashion. To bring about a strong effort both in the formal educational system and through non-formal channels men and women have to believe in the equality of sexes and to practise it.

We need a vast nation-wide movement to spread education among women and to improve their status—a movement which will involve millions of educated men and women.

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Liberalised UGC assistance for women colleges

Prof. Satish Chandra, Chairman of the University Grants Commission delivered the convocation address of the Jammu University. He emphasised the need for allocation of more funds on education. He said that from the point of view of expenditure on education the position was fairly low. Comparing to other countries, India has the third largest trained scientific manpower but in expenditure on education, in terms of GNP, the country is below Sri Lanka, Malaysia and Nigeria. It did not necessarily mean that our education standards were low as our scientists and teachers are welcome in foreign countries especially in West Asia, Africa and even in Europe and United States.

The University Grants Commission has recently relaxed its rules to extend its assistance on buildings, books and faculty to more women colleges on a scale similar to those applicable to colleges in backward areas. Now colleges with the minimum enrolment of 300 students instead of 400 in the three-year degree pattern would become eligible for assistance on buildings, books, equipment and faculty improvement. Similarly in the case of two-year degree course the minimum enrolment required has been reduced from 270 to 200.

Tope emphasises need for open university

Prof. T. K. Tope, while delivering the special convocation of the University of Bombay said that the cost of higher education has been rising rapidly during the last decade with the result that the funds available for meeting the requirements of higher education are very inadequate. Even the American and British universities have similar complaints. Higher education was now facing chal-

lenges all over the world. In India barring a few central universities all other universities in the States were facing financial crisis.

Prof. Tope emphasised the need for finding alternative resources for meeting the requirements of higher education and suggested that a substantial percentage of the net proceeds of professional taxes be earmarked for meeting the needs of higher education. Those who had the privilege of having received higher education should plough back some share to the universities and colleges in the form of professional taxes. The State Government should consider the desirability of earmarking such funds. The Vice-Chancellor also suggested that the University Grants Commission should adopt the policy of refusing permission for the establishment of new universities unless absolutely necessary and also strengthen the existing universities. He said that the university should also refuse affiliation to colleges unless necessary. For the backward areas, correspondence courses should be arranged and the colleges could have centres in neighbouring rural areas where there were a suitable number of students. He also emphasised the need for a national open university with centres in all States. The recent inclusion of education in the concurrent list has placed special responsibility on the Union Government for higher education.

Universal primary education

Shri J. P. Naik, Member Secretary of the Indian Council of Social Science Research while delivering the annual convocation of Poona University suggested a five-point programme of action to solve the problem of universal elementary education on a war footing by 1986. The programme of universal elementary education for children in the age group of six to fourteen was still not making

adequate progress and it deserved an alternative approach for effective implementation. He felt it necessary to make a beginning at once by modifying the formal system of education with the introduction of multiple-entry and part-time schools and use of non-professional teachers. He recommended a total change in the content and methodology of elementary education and development of the whole programme as a mass movement. He suggested that large scale experiments should be started in not less than two community development blocks in each district. The educational system should maintain a contact with each child in the age of 6-14 either on a full time or on a part time basis. Mr. Naik said that the elementary education should be built not round mere transmission of inert knowledge but round work experience and programmes of development and community service. Education and development should run together as a single integrated system-education leading to development and development leading to further and better education.

PANJAB UNIVERSITY (CHANDIGARH)

The Panjab University Centre for Advanced Study in Mathematics will be appointing a number of Mathematicians at various levels in the near future. First rate Mathematicians working in every field will be considered. However, there will be an attempt to strengthen the existing groups of Algebra and Analysis, especially by those people, who could interact with the Number Theorists and Applied Mathematicians of the Department. Those interested may write to the undersigned for further details.

**R.P. Bambah
Director**

**Centre for Advanced Study
in Maths.**

Teaching of English in Universities

A three-day national workshop on syllabus reform in English was held at the Central Institute of English & Foreign Languages, Hyderabad under the sponsorship of the University Grants Commission. Prof. Satish Chandra, Chairman of the Commission could not attend the seminar, but his inaugural address was read on his behalf. He made a strong plea for evolving national consensus on the objective of English language and literature courses both at the undergraduate and postgraduate levels. He assured that the Commission would provide support for the innovative programmes but felt that universities and colleges have been slow in availing these opportunities. He said that at this crucial period in the history of the country one important area where we could least afford stagnation or a policy of drift was education. A certain structure and philosophy of higher education came to us as a legacy of the colonial rule. But the development of higher education in India since independence had effected many changes. A policy oriented towards the needs of the resurgent and developing nation has been worked out. Modernisation of syllabus is an important phase of the implementation of this policy. A periodic review of the syllabus and academic programmes have to be made to ensure that the content of our education kept pace with the advancement of knowledge. The academic community has to be alert all the time and out-moded syllabus have to be discarded. In this context the national workshop was a part of this general effort. Similar workshops have already been organised at Mysore, Bombay, Lucknow and Shillong.

Prof. Satish Chandra said that English was still the language of opportunity. It was also the language of our trade. Good jobs in all fields called primarily for efficient communication skills in

English. Therefore equipping our students with these skills should be the primary objective of our English courses in the universities. This apart, English continued to be a source language at the level of higher education. The students of science and technology and that of social sciences and humanities required knowledge of English to be able to read books in their specialised fields readily available only in English. Our students should be enabled to acquire in using English as a library. They should also be equipped with communication skills in English. He said that the Commission has already appointed a panel of experts in English and foreign languages to advise it on all matters pertaining to the development of academic programmes. The faculty improvement programme too had been initiated and the Commission was fairly liberal in awarding teacher fellowship under the programme to English teachers. He hoped that the Departments of English in universities and colleges would make maximum use of these facilities.

Mr. P. Jaganmohan Reddy, Vice-Chancellor of Osmania University who presided at the seminar said that there are no two opinions on the need for English as an important link language. English has been serving us as a link language and is a national asset which should not for any ideological or misconceived regional or chauvenistic reasons be denigrated or neglected. For historical reasons in our country other languages had not kept pace with scientific and technological developments. This was due to the fact that India had not been in contemporaneous touch with the Industrial Revolution. Mr. Reddy

said that instruction through the mother tongue provided greater comprehension to the students and that along with such instruction, the student could also learn English which if properly taught would make him as proficient in it as in his mother tongue. He emphasised the need to concentrate on the training of English language at all levels, though it was also necessary to train teachers qualified in science, agriculture and technology. Two objectives should always be borne in mind. One to ensure that English would really become a service language for students, to promote intellectual and cultural awareness of the contemporary world and to provide information content necessary for modernisation of the country.

Prof. Ramesh Mohan, Director of the Institute, in his welcome address said that in order to avoid the continuance of a small privileged English knowing elite in the country, steps should be devised to teach English effectively to large number of students belonging to the backward classes and weaker sections. Referring to the problem of teaching literature, Prof. Mohan pointed out that we are still largely continuing with outmoded syllabuses of the British universities in the nineteenth century. The scope of English literature courses at the M.A. level in many universities had been widened to include American literature in English and Indian writing in English. But he was hardly aware of any serious attempt to include at least one paper in the literature in one of the regional languages, a knowledge of which would provide the student with a sound base for the proper study of other literatures. He emphasised the need for making the postgraduate syllabus in English more flexible and that admission to this programme should be restricted only to those who had the requisite competence in the English language.

Madurai introduces new programmes

The Academic Council of Madurai University has approved the introduction of a number of new courses at postgraduate and undergraduate levels. The BSc Home Science course would be made job-oriented with particular relevance to nutrition, institutional management, dietics, child care and pre-school education. The music study has been brought under the semester system. The new courses include MA (Economics) in the institute of correspondence course, MSc applied science in mathematics, physics and chemistry, MA course in sociology and political science, MPhil in sociology and political science, higher diploma courses in Russian, French and German, P. G. diploma courses in applied nutrition and public health and in pre-school education, diploma courses in Nehru studies, area studies, dairy science and

open university system in the university would start functioning from the coming academic year. The Vice-Chancellor said that a detailed programme with syllabus for the pre-foundation course and the first and second year course have already been worked out. Dr. Bryant Lewis of the Open University of the United Kingdom and Mr. Peter Moss of the British Council of Education at Madras recently visited Madurai to help the university authorities to prepare the groundwork of the open university programme.

Flame-proofing of cotton fabrics

Prof. H. L. Bhatnagar of the Chemistry Department of Kurukshetra University has succeeded in achieving a breakthrough in the field of flame-proofing of cotton fabrics, specially for the use of defence personnel and for

has a peculiar odour which can be detected even in minute quantities. All this helps a housewife in detecting an accidental fire almost instantaneously.

The treatment of 7-10 oz drills, mostly used by the defence personnel, fire brigade personnel and in mining, has received a little more attention for obvious reasons. About 100 metres of drill cloth was treated on the usual finishing plant-famatax at the T.I.T., Bhiwani. The treated cloth was tested in the laboratories of the Chemistry Department of the university and also at D.M.S.R.D.E., Kanpur, and also at Southern Regional Research Laboratories, Agricultural Research Service, New Orleans, USA. The test reports show that the samples are generally acceptable as regards their specific properties laid down by the American Standard of Testing Materials.

Continued modernisation of courses in Madras

The move of the Madras University to restructure its undergraduate courses has made a good impact. The launching of the new educational pattern would give the university another opportunity to modernise its undergraduate courses and adopt them to the national requirements. Dr. Malcolm Adiseshiah while speaking at a meeting of the college principals said that tentative proposals have been sent to the colleges for comments. A 32-member review committee had been appointed earlier which had suggested drastic modifications and restructuring of the courses. The recommendations are likely to be effected from the session 1980.

The Vice-Chancellor said that the aim of new degree courses should be to produce intelligent reasoning and employable persons. They also had to take a note of the fact that 90% of the graduates terminated their studies and only 10% went on the postgraduate and professional courses.

CAMPUS NEWS

certificate courses in population studies (part-time). The university has also decided to run two summer courses in MPhil for college teachers.

Prof. Chittibabu said that the Tamil Nadu Government has approved the proposal of the university to set up a Tamil Academy for honouring one outstanding Tamil savant every year by conferring a fellowship on him and making him a member of the Academy. The Government has also agreed to reimburse to the university the expenditure incurred for this purpose subject to the ceiling of Rs. 15,000 per annum. Dr. T. P. Menakshisundaram and Mr. P. N. Appuswamy who have already been conferred the fellowship of the Madurai University Tamil Academy are to be admitted to the life membership of the University Academic Council. The university has set up a committee to make a critical survey of its postgraduate courses in colleges. The proposed

children wear. The finished cloth developed in the laboratory becomes proof flame and does not catch fire at the point of application of flame. But it does not propagate the flame at untreated cotton fabrics and retains all its other important properties like air permeability, tear, tensile strength and dye retention intact. The cloth can be laundered without losing its flame retardancy for more than thirty times. It is also capable of standing drastic test, namely, three hours soap-soda boil. The finishing also imparts crease recovery and water repellancy. The soft flannel cloth generally used for making children's garments retains its softness after treatment and also takes up salt dyes imparting sparkling colours. Another important aspect of the treated samples is their smoke generation and lack of after-glow. The generated smoke even in small quantities

Dr. Malcolm referred to the controversial part of the university proposal on restructuring which related to reducing the language load in the degree courses. Under the new pattern each language would be allotted two hours a week in the first and second semesters. The general reaction to this proposal was that it would tell on the students' proficiency in the languages and also render many language teachers surplus. Dr. Malcolm said that it was necessary to increase the teaching hours for the languages. The classes should be made smaller and more effective as suggested by the Academic Council.

Reasons for deficiency in sports

Dr. M.S. Malhotra, Director of Defence Institute of Physiology, analysed the reasons for the poor performance in the field of sports. He said that nutrition, climate and training were the three fundamental requirements for the production of good sportsmen. The racial factor was of little significance while the other factors were within the human control. Muscle strength, according to him, predominantly influences performance in weightlifting, throwing and jumping events. Efficient energy supply processes play a greater role in all the running and endurance events including games while neuro-muscular coordination was essential for all types of competitive sports. Age, sex, physical fitness and status were the factors which influenced the oxygen supply. Dr. Malhotra was of the opinion that through proper training and physical control the oxygen uptake capacity can be increased. He mentioned various factors in this context. Maximum capacity for breathing air during exercise, speed of transfer of oxygen from lungs to blood and carbon dioxide from blood to lungs haemoglobin content of blood and its volume, efficiency of heart in pumping large quantities of blood per beat, capacity for transfer of oxygen to the

working muscles, rate of utilization of oxygen by the tissues and higher storage capacity of oxygen in the muscles. Dr. Malhotra in his address to the students of Punjabi University at Patiala made a strong plea for the involvement of the youth in the sports activities.

PAU kisan mela attracts large number of farmers

Over 8000 farmers from all parts of Punjab assembled at the two-day annual kisan mela of Punjab Agricultural University at Ludhiana. The mela was inaugurated by Mr. S. P. Bagla, Secretary, Finance Department. Seeds of improved varieties like rice, maize, cotton, bajra were displayed, and nearly ten thousand bags of seeds of different sizes were distributed on this occasion.

Dr. A. S. Cheema, Vice-Chancellor of PAU said that the growing number of participating farmers in this mela show that green and white revolution taking place in the state were bound to play vital role in solving country's food problems. He said that more than 4,500 crosses in wheat have been made by the university scientists during the current year. Object of such crosses was to test about high yielding varieties potentials, resistance of diseases particularly rust and grains quality from the nutritional point of view. To achieve this goal they created large number of breeding materials. Other highlights of the mela were that soil scientists who were attending to farmers in their own separate demonstration areas emphasised the danger of growing deficiency in their soils. They also explained to visiting farmers ways of reclamation of alkali soil and methods of preserving soils moistures. They advised the farmers to abandon raised bed methods of nursery raising popularly known as Japanese method which has been in vogue since early fifties. Timely warning was issued to the farmers against pernicious weed called perthenlum which was noticed for the first time in September. In animal sciences depart-

ment two strains of white leghorn were developed during the year. Farmers showed keen interest in crossbreed cows produced by mating shaiwal cows with red dane bulls which have given daily yield of more than 30 litres.

Programme of NSS in southern universities

During the current year over 17,000 students from Madras, Madurai and Annamalai Universities would visit the villages through the summer camps to bring better life to the villages near their respective colleges. The national sports service authorities are organising various camps on the basis of last year's achievements in this field.

The University of Madras proposes to involve 10,000 students from its affiliated colleges in these projects. The community leaders in the respective regions are being contacted for finalising the various schemes. The camps have been planned in terms of students' community resources and projects would be developed in assorted villages and slums areas which were near the institutions themselves. The proximity of the colleges have been underlined since there should be a continuity of students efforts in bringing improvement to the whole village, bringing about an attitudinal change and creating durable assets in a period of two or three years. In the Madras University area there were 120 villages which have been adopted by various colleges.

Another idea was to expose the students to the rural realities and at the same time making it an educational exercise of an on-going nature bringing to the fore potential youth leaders. The main areas of the project will be land reforms, non-formal education and recreation, better environment afforestation and tree plantation, economic development and family and child care, relief to the erstwhile bonded workers, teaching improved agricultural practices, laying of roads, village streets and drains, soil conservation

works, assistance in the repair of agricultural machinery and mass immunisation. These camps would be in the nature of work oriented plan than a mere plan of manual labour. Similar programmes would also be organised in Andhra Pradesh, Karnataka, Kerala and Pondicherry.

Seminar on Non-alignment held at Tirupati

Sri Venkateswara University, Tirupati, organised a national seminar on non-alignment, under the joint auspices of the Centre of Studies in Peace and Non-Violence and the Centre for Studies on Indo-China. Shri T.N. Kaul former President, Indian Council for Cultural Relations, inaugurated the seminar. The focus of the seminar was on non-alignment—the concept and its evolution, non-alignment and international law, non-alignment and economic, social, scientific and technological cooperation and non-alignment and world peace. A large number of distinguished scholars participated in the discussions. Implications of non-alignment in different fields were analysed and projected in the proper perspective.

Semesterisation Programmes in Madras

Dr. Malcolm Adiseshiah has said that the semesterisation programme had been widely welcome by the members, staff and students of the colleges of University of Madras. He has assured the principals that the system would cover all colleges in about two years time. The university has also started negotiations with the State Government for the provision of necessary financial aid to make good the deficit of colleges which would run into several lakhs.

The Syndicate of the University has decided to raise the examination fees to provide an additional Rs. 25 lakhs on the

advice of the State Government. During the year the university had given special attention to non-formal education, semester programme, the national student scheme, the academic excellence programme and the university students information bureau.

New Pay-Committee to consider demands of non-teaching employees in Bengal

The threatened strike of over 8,000 non-teaching employees of the universities in West Bengal which was to begin from 18th April, 1977 has been averted for the present. The State Government has announced the appointment of a first pay committee. The Committee is likely to keep in view the cost of implementation and advise the government within the coming six months.

The terms of reference of the committee would be:

1. to bring about a rationalisation of pay-scales and to consider merging of dearness allowance with basic-pay;
2. to explore the possibilities of introducing new or intermediate selection grade on the lines of those adopted by the Government;
3. to suggest a rational staffing pattern;
4. to inquire into every incidental matters and suggest removal of anomalies, if any.

The Government took this decision after the Education Minister had met with the representatives of the university employees, students organisations and some Vice-Chancellors in Calcutta. This announcement in a way has virtually scrapped the P.B. Mukherjee pay-scales over which the non-teaching employees had been agitating since long.

The Minister has appealed that the examination schedules including publication of results should

not be disturbed. In all colleges which have furnished the necessary particulars, the new UGC scales had been implemented and a sum of Rs.2.25 crores has already been disbursed during the last financial year on this account. The final pay fixation is a formality which can be gone through after scrutiny of the necessary particulars of service etc. to be submitted by the institutions concerned. The Minister further suggested that the Government could take up some form of salary deficit scheme if the teacher came forward to cooperate with the authorities.

UGC assistance for book on Tribal Culture

Prof. L. P. Vidyarthi, President of International Union of Anthropological and Ethnological Sciences and Dr. B. K. Rai have jointly authored a book on tribal culture under the quality book writing programme of the University Grants Commission. The book provides for the first time a comprehensive view of the tribal culture in India.

Better assistance for weaker students in Tamil Nadu

The Tamil Nadu Government has changed the system of payment of scholarships. Now onwards instead of making cash payments to students belonging to scheduled castes/scheduled tribes backward classes and denotified tribes studying in school and colleges, they will be supplied with books at the beginning of each academic year and would be exempted from payment of special fees and examination fees. Hitherto, the Harijan and Tribal Welfare and Backward classes departments have been sanctioning the scholarships to students to cover the cost of books, special fees and examination fees. The benefit reached only to those who applied for it. Also the procedure involved resulted in considerable delay in

the disbursement of scholarship amount. Considering these disadvantages and with a view to covering a larger number of students the Government has decided to supply books to the eligible students at the beginning of each academic year and exempt them from the payment of fees, etc.

Vallabh Vidyanagar sets up language laboratory

H. M. Patel Institute of English, Vallabh Vidyanagar, prepares teachers and teacher-trainers to build a cadre of trained teachers of English for whole of Gujarat State. Research into local problems of the region is also conducted. The institute in addition prepares sets of materials to be used in schools and colleges and seeks to improve the standard of English teaching. The overall instructional objective of the Institute courses is for trainees to become proficient teachers of English by acquiring a rationale for thinking about and consistently resolving problems of curriculum and instruction in English as a foreign language and the ability to apply this rationale in planning and teaching English courses and preparing materials in schools and colleges. The institute is a part of Sardar Patel University and is one of its recognised institutions for graduate and postgraduate studies. The five departments of Linguistics and Contemporary Usage, Phonetics and Spoken English, Methods of Teaching English, Literary Studies and Education & Educational Psychology offer MEd, BEd (English) and BA, BEd (English) courses for teachers. Besides these courses the institute also organises senior certificate course in English and short-term inservice training courses for primary teachers.

The language laboratory of the institute is well organised. It has an audio-active laboratory with sophisticated auxiliary recording equipment of several kinds

including a ferringraph and a library of prepared tapes, cassettes and records which can be used for speech-training and language teaching. There are also films and other audio-aids of various kinds. Using the language laboratory the institute has designed specialised programmed courses in English for special purpose. At present courses for English in Physical Science, English in Mechanical Engineering, English in Commerce and English in Sociology have been designed. The institute has teacher's centres dispersed throughout the State of Gujarat. Regular seminars and workshops are organised by the institute in different subjects. These help in creating awareness in day-to-day problems and in planning to meet actual needs of learners in a practical manner. The language laboratory was inaugurated by Dr. Ramesh Mohan, Director, Central Institute of English and Foreign Languages recently. This is the first 200 booth, audio-active language laboratory manufactured and installed by Bharat Electronics Ltd., Bangalore, in the country.

Number of summer camps for Gujarat students

The Gujarat University would conduct mountaineering camps for students during summer vacations at Mount Abu. About 150 students are selected for the camps, two each for men and one for women. Already about 750 students from 80 colleges affiliated to the university have applied for these courses which have become more popular.

The university will also organise Himalayan trekking camps for men and women in the month of June. About 20 students will be selected for each camp. Another trekking trip from Chanod to Broach along the banks of Narmada would be planned during the vacations. The university is also proposing to organise another camp in the month of May at the university campus to inculcate

scientific reading practices in students. The department of sociology would conduct a camp for the benefit of students preparing for the IAS and central examinations.

New courses at Annamalai

The Annamalai University has decided to introduce a part-time MSc course in Microbiology and Plant Protection from the next academic session. The university also proposes to institute one-year Master of Higher Education course from the next year. The semester system would also be introduced shortly in various postgraduate programmes of the university.

Rajasthan sports grants

The Rajasthan Government has allocated a sum of Rs. 23.80 lakhs for the improvement of sports and games in the State. Out of this sum the State Sports Council will get Rs. 15.61 lakhs as grant-in-aid. A sum of Rs. 2.50 lakhs has been earmarked for rural sports. Though no special provision has been made for schools in tribal areas nor for oriental colleges, the secondary schools for girls have been provided with Rs. 33,000 while the boys schools will get Rs. 2.45 lakhs as grant-in-aid.

UN recognition for communication centres

The Indian Institute of Mass Communication in New Delhi and the Poona Film and Television Institute have been recognised as two national centres for the training in mass communication by the Unesco's commission on mass media at its meeting held in Nairobi. The institutes currently cater to the requirements of twentyseven developing countries.

Personal

1. Dr. D. P. Singh has taken over as the Vice-Chancellor of Rajendra Agricultural University, Smastipur.
2. Mr. T. V. Chidambaram has retired as the Registrar of Bombay University on April 1, 1977.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

BIOLOGICAL SCIENCES

Biochemistry

- 1 Agashe, S S Immunological studies on human tumors with special reference to Osteogenic sarcoma University of Bombay.
- 2 Ananthakrishnan, Radha Control mechanism in RNA biosynthesis. University of Bombay
- 3 Choksey, A F Optical, ultrastructural and elect on histochemical aspects of human breast cancer University of Bombay
- 4 Choudhari, Patru Nathu Effect of katha, *Acacia catechu* on high cholesterol diet in rats Nagpur University
- 5 Dhar, Alpana Nature, composition and synthesis of lipid in germinating seeds of soybean *glycine max* University of Calcutta
- 6 Handa, A K Regulation of chloronema differentiation in the mass funaria hygrometrica by adenosine 3'5' -cyclic monophosphate University of Bombay
- 7 Irani, M H Genetic and biochemical studies in carbohydrate metabolism in *Escherichia coli* Glycolysis University of Bombay
- 8 Kundu, Asitbaran Biochemical studies on rice plant with special reference to photosynthesis University of Calcutta
- 9 Lalitha, N Biochemical evaluation of antitumor agents University of Madras
- 10 Mohana B Biochemical genetical studies on pyridoxineless mutants University of Madras
- 11 Ram Gulab Chandra Metabolism of liver phospholipids in retinol fed rats University of Delhi
- 12 Ranganathan, N S Biochemical polymorphism. Studies on the incidence of glucose-6 phosphate dehydrogenase deficiency and some related factors. University of Madras
- 13 Rangnekar, M K A study of the effects of Indian medicinal plants in experimental hepatic injury in rats University of Bombay
- 14 Sarkar, Lina Isolation characterization and biochemical studies of the antithiamine factor present in cotton seed *Bombex male bericum* University of Calcutta
- 15 Sharma, Kameshwar Prasad Role of sugar-nucleotides in carbohydrate metabolism in developing grains of *Sorghum vulgare* and *Triticale* Punjab Agricultural University
- 16 Sheriff, D Sultan Hormonal influence on testicular lipids University of Madras
- 17 Sridharan, R Histone biosynthesis during mammalian differentiations University of Bombay
- 18 Vishnu Prakash Studies on polyamine metabolism during germination of pea seeds M S University of Baroda

Microbiology

- 1 Bhundey, S K Role of carriers and non-agglunnable vibrios in cholera University of Bombay
- 2 Mansharamani, H J Rubella infections in Bombay with some laboratory studies University of Bombay
- 3 Sharma, Chhottoo Ram Studies on the phages infecting blue green algae. I A R I, Delhi

Botany

- 1 Agarwal, Harish Chandra Nutritional physiology of *Trichothecium roseum* (Pers.) Link ex Fries University of Jabalpur
- 2 Chattopadhyay, Asih Photosynthesis and productivity of rice plant in relation to growth substances University of Calcutta
- 3 Correa, N M Morphological anatomical and in vitro studies of certain members of ferns University of Bombay
- 4 Leelavathi, A Epidermal studies in the leguminosae *Osmunda* University
- 5 Mehta, Usha Development of scotch marigold *Calendula officinalis* L. and its modification by some plant growth regulators University of Delhi
- 6 Pal, Amita Chromosome studies and chemical analysis of some medicinal species with special reference to the genus *diostorea* University of Calcutta
- 7 Pal, Rabindranarayan Taxonomical study of Theaceae actinidiaceae and Saurauaceae of India and Burma University of Calcutta
- 8, Peter Sargunam Davis Studies on species crosses of *gossypium* Tamil Nadu University
- 9 Prasanna Kumari, T O The factors affecting the development of rust fungi of wheat in detached leaf culture, and their interaction with wheat mosaic streak virus University of Kerala
- 10 Purohit, Ramesh Chander The autecological studies of *Empothisia geniculata* Orleg infesting crops at Indore Indore University
- 11 Sehgal, Anita Some aspects of the developmental biology of *ceratophyllum* University of Delhi
- 12 Sharma, Mahesh C Oxygen effect in relation to chemical modification of the radiosensitivity of barley seed Jawaharlal Nehru University
- 13 Subramanayam, N Contribution to vegetative anatomy of some epiphytic orchids University of Bombay
- 14 Vaidya, A L Contributions to the Botany of Marathwada III Marathwada University

Zoology

- 1 Abdul Haq, M Studies on the taxonomy biology and ecology of oribatid mites University of Kerala
- 2 Adescan, Chellam Sex pheromones in insect reproduction University of Bombay
- 3 Agrawal, Durga Prasad Histochemical and cytological studies on the adipose tissue of insects with special reference to water vacuoles, peripheral globules lipids and proteins University of Saugar
- 4 Bagalkote, S G Studies on some physiological aspects of the Indian domestic fowl (Desi fowl) *Gallus domesticus* University of Bombay
- 5 Das, Swapankumar Some aspects of the digestive physiology of a leafhopper, *Nephotettix bipunctatus* Fabr (Homoptera Jassidae) University of Calcutta

6. Dikshitulu, A. V. Ramana. Some aspects of enzyme regulation in goat liver homogenates with special reference to ammonia metabolism. Sri Venkateswara University.
 7. Dwivedi, Devendra Kumar. Studies on the colour-change mechanism in a fresh-water fish. University of Saugar.
 8. Misra, Manas Kumar. Population study of nematodes from the lateritic soil of gullies at Santiniketan, West Bengal. Visva-Bharati.
 9. Ray, Ajay Kumar. Studies on the developmental morphology and cytochemistry of the female reproductive system in *Bufo melanostictus* Schneider. Visva-Bharati.
 10. Rita Singh. Physiology of the epididymis and ductus deferens of the albino rat during post-natal development. University of Delhi.
 11. Sokhey, Apar. Histological and ultrastructural studies of parenchymal changes in the lungs of rats under acute and chronic exposures to simulated high altitude, with special reference to pulmonary oedema. University of Delhi.
- Agriculture**
1. Adsule, Pandurang Gunda. Evaluation of some thermoplastic containers for the packing of different fruit products. I. A. R. I., Delhi.
 2. Ahuja, Mohan Singh. Effect of irradiation on the physicochemical and rheological changes in relation to baking quality of Punjab wheats. Punjab Agricultural University.
 3. Ajit Singh. Inter-relation of P and S in crops and evaluation of S availability using ³⁵S. Punjab Agricultural University.
 4. Amarjit Singh. Efficient utilization of available quantity of irrigation water in dwarf wheat under varying rates of nitrogen. I. A. R. I., Delhi.
 5. Bandyopadhyaya, Anutabha. Are multiple cross multiple pollen hybrids an answer for productive population in *Brassica Campestris* Var. (Brown sarson)? I. A. R. I., Delhi.
 6. Bandyopadhyay, Bimal Kumar. Influence of soil cationic environment of crop responses to NPK fertilizers. I. A. R. I., Delhi.
 7. Basant Lal. On some contribution on designs for qualitative-cum-quantitative experiments. I. A. R. I., Delhi.
 8. Basuchaudhuri, Pranab Kumar. Effect of molybdenum on nitrogen utilization in rice. University of Calcutta.
 9. Bedi, Sachchidananda. Studies on the dissipation and metabolism of two dichloromethyl diaryl phosphonates as new antiblast compounds in rice plants. I. A. R. I., Delhi.
 10. Bhatnagar, Deepak. Some investigation on the effect of magnetic field on wheat (*Sonalka*) and *Drosophila Melanogaster*. I. A. R. I., Delhi.
 11. Bhilegaonker, Madhao Gopalrao. A study of fertilizer utilisation behaviour of farmers and communication patterns under constraints. I. A. R. I., Delhi.
 12. Chauhan, Nawal Kishore. Inducing change through S. I. T. E. : A study of some socio psychological and communication correlates of adoption behaviour of rural audience of S. I. T. E. in North Bihar. I. A. R. I., Delhi.
 13. Chauhan, Rajeshwar Singh. Aneuploidy in guava, *Psidium Guajay* L. I. A. R. I., Delhi.
 14. Chennakrishna Reddy, K. Studies on the influence of soil treatments on the availability and plant uptake of zinc. I. A. R. I., Delhi.
 15. Daya Ram. Physical properties of simulated soil systems as influenced by clay minerals with special reference to water retention characteristics. I. A. R. I., Delhi.
 16. Deol, Gurdev Singh. Studies on the epidemiology of cucumber mosaic virus in chilli, *Capsicum annuum* Linn. Punjab Agricultural University.
 17. Dhonukshe, Bacharam Laxman. Studies on combining ability of yield and yield components in Durum wheats. I. A. R. I., Delhi.
 18. Gangasaran. Suitability of germplasm of brown sarson (*Brassica campestris*) for different dates of seeding and varying rates and methods of nitrogen application. I. A. R. I., Delhi.
 19. Ghodake, Raghunath Dnyanu. Economics of pest control in rice. I. A. R. I., Delhi.
 20. Goswami, Apurba Milan. Effect of some chemical treatments on the fruit quality in grapefruit, *C. paradisi* Macf. I. A. R. I., Delhi.
 21. Goswami, Parama Nanda. Effect of dwarfing genes on yield and its components in Pearl Millet, *Pennisetum typhoides*, S & H. I. A. R. I., Delhi.
 22. Hawaldar Singh. Genetic investigations on some agronomic and quality traits in Pearl Millet, *Pennisetum typhoides* Stapf and Hubb. I. A. R. I., Delhi.
 23. Jagdish Kumar. Studies on multilines of Bread wheat variety Kalyansona: Their development and significance in relation to P. recondita. I. A. R. I., Delhi.
 24. Jivadhan. Rooting of cuttings of fruit trees through bottom heat. I. A. R. I., Delhi.
 25. Kakati, Narendra Nath. Chemical weed control in rice in relation to fertiliser use. I. A. R. I., Delhi.
 26. Kariyar, Kuldip Narain. Population dynamics of bollworms vis-a-vis reproductive stages of cotton. I. A. R. I., Delhi.
 27. Krishan Ram. Biochemical and population genetic studies of the mechanism of protogyny in *Pennisetum typhoides*. Punjab Agricultural University.
 28. Mahto, Yogendra. Ecological studies of acridids of Delhi Region including bionomics of *Eyprepocnemis alacris impicta* Uvarov. I.A.R.I., Delhi.
 29. Maskina, Mohinder Singh. Studies on the chemical equilibria of zinc in submerged soils. Punjab Agricultural University.
 30. Meena, Nathu Lal. Studies on grain yield, nutrient uptake in plant parts and root distribution of some wheat varieties as influenced by rates of nitrogen and phosphorus. I.A.R.I., Delhi.
 31. Meon, T. C. Manmohan. On some statistical designs for varietal selection. I.A.R.I., Delhi.
 32. Mittal, Vijay Kumar. Analysis of harvesting and threshing systems of wheat. I.A.R.I., Delhi.
 33. Mool Chand. Mutation studies in *Solanum khasianum* Clarke. I.A.R.I., Delhi.
 34. Morey, Devidas Krishnarao. Effects of multiple crop sequences and stover management on crop yields and soil properties. I.A.R.I., Delhi.
 35. Mruthunjaya. An economic analysis of risk on drought prone farms in Bijapur District, Karnataka. I.A.R.I., Delhi.
 36. Murari Lal. Genetical studies on the compactness of curd in Indian cauliflower, *Brassica oleracea* L. var. Botrytis L. I.A.R.I., Delhi.
 37. Murari Singh. Design and analysis of balanced and partially balanced experiments. I.A.R.I., Delhi.

38. Naqvi, Saiyed Mohammad Ansar. Identification of genes for leaf rust resistance in certain varieties of Triticum aestivum L. I.A.R.I., Delhi.
 39. Negi Anand Sain. Soil fertility evaluation of the District Kinnaur of Himachal Pradesh. I.A.R.I., Delhi.
 40. Panda, Mukhtikam. Studies on reniform nematode, *Rotylenchulus reniformis* infesting cowpea, mung and urid. I.A.R.I., Delhi.
 41. Pande. Suresh. Studies on the epidemiology of stem rust of wheat with special reference to sporulation of the pathogen, *Puccinia graminis* Triticis Pers. Erikss and Henn. I.A.R.I., Delhi.
 42. Parasram, Samsundar. The behaviour of stored grain insects conditioned on wheat varieties. I.A.R.I., Delhi.
 43. Patel, Arjun Lal. Effect of light and temperature on growth of the rice plant. I.A.R.I., Delhi.
 44. Puri, Raj Pal. Genetic analysis of cooking quality with reference to amylose and gelatinization temperature in rice. I.A.R.I., Delhi.
 45. Raghu Vardhan Reddy, S. Studies on the effect of soil moisture regimes at different growth stages of growth, yield and quality of mustard, *Brassica Campestris* L. Var. (Brown sarson) and safflower, *Carthamus tinctorius* L. I.A.R.I., Delhi.
 46. Raghuvendra Pratap Singh. Studies on the antifecundant properties of the chemical present in plants of family amaryllidaceae with special reference to desert locust, *Schistocerca gregaria* F. I.A.R.I., Delhi.
 47. Rai, Samarjit. Studies on the incidence and damage due to sorghum shootfly to determine the economic injury level, I.A.R.I., Delhi.
 48. Rajinder Singh. Cytogenetic studies of chromosomal interchanges and tertiary trisomies in *Pennisetum typhoides* (Burm.) S. & H. Punjab Agricultural University.
 49. Rao, V. S. R. Effect of gamma-irradiation on the rheological and baking qualities of wheat. University of Bombay.
 50. Ramakrishna, Garapati Venkatasurya. Some contribution to the design and analysis of fractional factorials. I.A.R.I., Delhi.
 51. Ramsajiwani Singh. Nutrient and water management under different kharif intercropping systems. I.A.R.I. Delhi.
 52. Razvi, Ahmad. Studies on the pests of brinjal and their control with special reference to fruit borer, *Leucinodes orbonalis* Guenee (Pyralidae : Lepidoptera). I.A.R.I., Delhi.
 53. Saigam, Raj Kumar. Studies on photosynthesis and related metabolism in sunflower. I.A.R.I., Delhi.
 54. Sathyanarayanaiah, Kuruvadi. Genetic studies on Rainfed Wheat. I.A.R.I., Delhi.
 55. Sat Paul. Biology and control of *Phalaris minor* Retz. in Wheat, *Triticum aestivum* L. Punjab Agricultural University.
 56. Sen, Arabinda. Diffusion of Zn, Mn and Fe to plant root as affected by physical and chemical environment of soil. I. A. R. I., Delhi.
 57. Shahiduzzaman Muhammad Elias. Optimal cropping patterns in Dacca-Narayanganj-Demra Irrigation Project (Bangladesh) : An integration of irrigation management and drainage development. I. A. R. I., Delhi.
 58. Shekar, Vasudeo Bhimraoji. Line x tester analysis for combining ability in forage Sorghum, *Sorghum bicolor* (L.) Moench. I.A.R.I., Delhi.
 59. Shripal Singh. Biochemico genetic analysis of adaptation in pearl millet, *Pennisetum typhoides*, Stupf & Hubb. Meerut University.
 60. Sinha, Dinesh Chandra. Studies on the leaf rust of maize caused by *Puccinia Sorghi* (Schw) in India. University of Bihar.
 61. Srinivasa Rao, N. K. Studies on the contribution of stem sugars and various photosynthetic plant parts to grain development in *Sorghum vulgare* pers. I. A. R. I., Delhi.
 62. Sarivastava, Ashok Kumar. Co 2 compensation concentration as influenced by environmental conditions, growth and development in some crop plants. I. A. R. I., Delhi.
 63. Srivastava, Ram Prakash. Feasibility of integrated control of fruit pests. I. A. R. I., Delhi.
 64. Srivastava, Yogesh Chandra. Genetical studies in *Lathyrus satvus* (L.) I. A. R. I. Delhi.
 65. Surendra Pal Singh. Studies on diversity, adaptation and gene action in some populations of Bengal Gram, *Cicer arietinum* (L.). I.A.R.I., Delhi.
 66. Suryanarayana Pillai, S. On efficiency of cluster sampling techniques. I.A.R.I., Delhi.
 67. Tomar, Sarman Singh. Transformations of dillapiol, a constituent of *Anethum Sowa* Roxb. into compounds of possible pesticidal importance. I.A.R.I., Delhi.
 68. Vasudeva Rao, M. J. Genetic Analysis of fodder yield and quality in sorghum, *Sorghum Bicolor* (L.) Moench. I.A.R.I., Delhi.
 69. Verma, Ashok Kumar. Effect of atmospheric gases on pest infestation during storage and on keeping quality of walnuts. I.A.R.I. Delhi.
- ### Veterinary Science
1. Bose, A. Saras chandra. Studies on inhalation anaesthesia in buffaloes with special reference to thoracic surgery. Punjab Agricultural University.
 2. Divakara, S. Studies on white spots defect in sheep skins. University of Madras.
 3. Narajan, N. Response to index selection for short term egg mass in Meyer strain white leghorn chickens. Tamil Nadu Agricultural University.
 4. Renesh Chandra. Biochemical and toxicological studies of malathion in buffalo calves. Punjab Agricultural University.
 5. Sethuraman V. Studies on bovine ruminal indigestion in natural and experimental cases and their therapy. Punjab Agricultural University.
- ### Home Science
1. Patwardhan, Asha Anil. Comparative study of three different types of mixers and grinders with regard to time, motion, energy and cost. Nagpur University.

**RAVISHANKAR UNIVERSITY
RAIPUR**

NOTIFICATION No 2/77

Applications are invited on the prescribed form (seven copies) obtainable from the Registrar on payment of Rs. 5/- in cash or by crossed Bank Draft alongwith a self addressed envelope (23 x 11cm) stamped for Rs. 120 for the post of Reader in Geography in the University Teaching Department.

1. Reader: One in Geography
Specialisation : Geography of Resources/Regional planning, Land Utilisation.

a. Scale of pay : 1100-50-1600.

b. Qualification

- 1—A Doctor degree or published work of an equivalent high standard; and
- 2—A second class Master's degree in a relevant subject with at least 50% marks

(i) (Grade B in the seven point scale) or an equivalent degree of a foreign University and (While taking into account the marks/Grade, the marks/grade obtained in internal assessment, if any, shall be excluded)

(ii) At least 50% marks at the Bachelor degree exam on the basis of which the division is awarded at the degree level by the university; and

(iii) At least 50% marks at the Higher Secondary/ Intermediate / Pre-University Exam. as the case may be;

Provided that if the Selection Committee is of the view that the research work of a candidate as evident from his thesis or from his published research work is of a very high standard, it may relax any of the qualifications prescribed in 2. above;

3—(i) Five years experience of teaching postgraduate classes; and

(ii) At least three year's experience of guiding research.

1. The requirement regarding minimum percentage of marks shall be relaxed upto 5% in case of scheduled castes / scheduled tribes

candidates. Fifteen percent of the posts in each department are reserved for the candidates belonging to scheduled castes and 18% for the scheduled tribes candidates.

2. General :

(i) Contributory provident fund, dearness and other allowances and benefits are available as per University Rules. Higher initial salary in the scale may be considered in case of exceptionally qualified and deserving candidates.

(ii) Candidates in employment

must submit their applications through proper channel. Applicants called for interview will have to bear their own expenses.

(iii) The university reserves the right not to fill the post without assigning any reason thereof.

3. Applications along with copies of testimonials and attested copies of certificates should reach the Registrar on or before April 30, 1977.

**H. N. SHUKLA
REGISTRAR**

**INDIAN SCHOOL OF MINES
DHANBAD-826004**

Advt. No. 420008/77

Dated March 30, 1977

ANNOUNCEMENT OF FACULTY POSITIONS

1. The following vacancies exist at the Indian School of Mines, a 'deemed University' under the University Grants Commission Act, 1956 :

1. **Five Professors** : One in *Geophysics* for the Deptt. of Applied Geophysics, one in *Physics* and one in *Electronics* for the Deptt. of Physics and Mathematics, one in *Fuel Engg.* for the Deptt. of Chemistry, Fuel and Metallurgy, and one in *Mine Surveying* for the Deptt. of Engg. and Mining Machinery.
2. **Four Assistant Professors** : One in *Mathematics* for the Deptt. of Physics and Mathematics, one each in *Metal Mine* and *Coal Mining* in the Deptt. of Mining Engg. and one in *Petroleum Engg.* for the Deptt. of Petroleum Engg.
3. **Two Visiting Asstt. Professors** for the Deptt. of Mining Engg. in the specialisation of Coal Mining Methods/Metal Mining Methods/Open cast Methods.
4. **Nine Lecturers** : Two for the Deptt. of *Mining Engg.*, one for the Deptt. of *Petroleum Engg.*, two for the Deptt. of *Engg. and Mining Machinery*, one in *Coal Preparation* for the Deptt. of Chemistry, Fuels and Metallurgy, one in *Computer Systems* and one in *Industrial Relations* for the Deptt. of Industrial Engg. and Management, and one in Economics for the Deptt. of Humanities and Social Sciences.

The post of visiting Asstt. Professors are tenure posts normally for one-year duration only and are thus very suitable for persons employed in industry and research institutions who would like limited academic development.

Except the posts of Asstt. Professor in Petroleum Engg. (which is currently a leave vacancy but is likely to continue and become permanent), and those of lecturers in Petroleum Engg. computer systems and in Economics (which are currently temporary vacancies), all posts are either permanent or likely to become permanent in due course.

PAY SCALES AND UPPER AGE LIMITS

Professor : Rs. 1500-60-1800-100-2000-125/2-2500 (50 years)
Asstt. Professor/Visiting Asstt Professors : Rs. 1200-50-1300-60-1900 (40 years)
Lecturers : Rs. 700-40-1100-50-1600 (35 years)

Allowances admissible as per Government of India Rules sanctioned from time to time. Total emoluments currently amount to Rs. 969/- at the Rs. 700 stage, Rs. 1503/- at the Rs. 1200 stage, Rs. 1803/- at the Rs. 1500/- stage and Rs. 2203/- at the Rs. 1900 stage. Upper age limit relaxable in respect of certain categories and persons otherwise considered specially suitable.

II. Specialising in the field of earth sciences and technology, Indian School of Mines conducts two B. Tech. Programmes (in Mining Engg. and Petroleum Engg.), two M. Sc. programmes (in Applied Geology and Applied Geophysics) as well as several post-graduate industry-oriented programmes, including three M. Tech programmes (in Mining and Mine Planning/Opencast Mining/Mining Machinery). One DISM/M.Tech. Programme (in Mineral/Coal Preparation), a post-graduate diploma programmes—one in Mineral Exploration and the other in Mining Geophysics. An additional M. Tech Programme (in Pet. Prodn) and two more M.Sc. (Tech) Programmes (one in Engg. Geology, and the other in Petroleum Exploration) are expected to be started next year.

The School also has an ambitious continuing education executive development programme (covering about 44 courses per year), a strong R & D activity, and approved scheme of Institutional consultancy.

III. Information for candidates and prescribed application forms are obtainable from the Registrar, Indian School of Mines, Dhanbad-826004, on sending a self addressed envelope of the size 29 x 12 cm. affixed with postal stamps of the value of Rs. 2.70 paise. Application in the prescribed application form, complete in all respects, should reach the undersigned on or before April 30, 1977. Those in service are advised to apply through their employer (s).

CANVASSING IN ANY FORM WOULD BE A DISQUALIFICATION

M. S. RAMAMURTHY
REGISTRAR

MEERUT UNIVERSITY MEERUT

Applications are invited for the following posts which have been sanctioned under the V Five Year Plan :-

(A) Professor in the grade of Rs. 1500-60-1800-100-2000-125/2-2500/-. One each in Physics, Zoology, English, History, Political Science and Economics

Qualifications : 1. (a) A Doctorate Degree in the subject of study concerned or a published work of high standard in that subject; (b) Consistently good academic record (that is to say, overall record of all assessments throughout the academic career) with average second class career together with at least Second class in Bachelor's degree and first class or high second class (that is to say, with an aggregate

of more than 54% marks) in Master's Degree in the subject or equivalent degree of a Foreign University in the subject. The qualifications can be relaxed as provided in the statutes.

(2) At least 5 years' research/teaching Experience in a University or a recognised institution and should have distinguished himself as a researcher and should have competence to give post M.A./M.Sc. Courses and guide research

Area of Specialization :—For Professor of Physics is Nuclear Physics/Solid State (Experimental)

(B) Reader in the grade of Rs. 1200-50-1300-60-1900/-. One each in Physics, Botany, Sociology, Psychology, Russian and Two in Mathematics.

Qualifications :—(1) (a) A Doctorate Degree in the subject of study concerned or a published work of high standard in

that subject; (b) Consistently good academic record (that is to say, overall record of all assessments throughout the academic career) with average second class career together with at least II class in Bachelor's Degree and First class or high second class (that is to say with an aggregate of more than 54% marks) in Master's Degree in the subject or equivalent degree of a Foreign University in the subject. The qualifications can be relaxed as provided in the statutes.

(2) At least 5 years' research/teaching experience in a university or a recognised Institution and should have distinguished himself as a researcher and should have competence to give post MA/M.Sc. courses and guide research

Area of Specialisation :—(a) For Reader in Physics: Electronics/Atomic and Molecular Physics/Atomic Collisions (Experimental), (b) For one Reader in Mathematics: Pure Mathematics (General Topology) and for the other Reader in Mathematics—Statistics (Experimental Design/Agriculture Statistics/Bio-Statistics).

(c) For Reader in Botany-Micology and Plant Pathology/Morphogenesis/ Ecology/Environmental Biology/Microbiology.

(D) For Reader in Sociology-Social Stratification/Rural Sociology/Political Sociology.

(e) For Reader in Psychology :— Industrial/ Social/Comparative/ Experimental Psychology.

(C) Lecturer in the grade of Rs. 700-40-1100-50-1600/- One each in Physics, Botany, Zoology, Sociology, Psychology, English, History, Education, Political Science and Economics.

Qualifications :—(1) (a) A Doctorate Degree in the subject of study concerned or a published work of high standard in that subject (b) Consistently good academic record (that is to say overall record of all assessments throughout the academic career with average Second Class career together with at least Second Class in Bachelor's Degree and First class or high Second class (that is to say with an aggregate of more than 54% marks) in Master's Degree in the subject or equivalent degree of a Foreign University in the subject.

(2) If a candidate possessing qualifications specified above is not available or is not considered suitable, a person possessing a consistently good academic record (Due weightage being given to M. Phil or equivalent Degree or research work of quality) may be appointed on the condition that he will attain the said qualifications (namely Doctorate or published work as aforesaid) within five years of the date of his appointment.

Provided that where the teacher so appointed, fails to attain the prescribed qualification within the said period of 5 years, he shall not be entitled to

annual increments until he attains such qualifications.

Area of Specialisation :—(a) For Lecturer in Physics: Atomic and Molecular Physics/Atomic Collisions.

(b) For Lecturer in Botany :—Microbiology & Plant Pathology/Morphogenesis/ Ecology/Environmental Biology/Microbiology.

(c) For Lecturer in Psychology :—Industrial/Social Comparative/Experimental Psychology.

Benefit of Provident Fund available as admissible under the rules on confirmation. Period of probation for all Posts is one year. It is not necessary to fill all the advertised posts.

For the post of Lecturer, other things being equal, preference will be given to Scheduled Caste/Tribe candidates who are considered fit. Such candidates should indicate in their application that they belong to Scheduled Caste/Tribe and attach certificate to this effect from the District Magistrate of the District to which they belong. No other certificate for this purpose will be entertained.

Applications on the prescribed form available on request (accompanied with a self-addressed envelope of size 23cm x 10cm and stamped for Rs. 0. 40) free of cost from the office of the Registrar, with relevant testimonials, publications, etc. accompanied by a bank draft of Rs. 7.50 payable to Registrar, Meerut University, Meerut, should reach the Registrar, Meerut University, Meerut by Monday, 2nd May, 1977. The candidates who are in service must send their application through proper channel. Applications from outstation candidates will be issued by post up to Saturday, 23rd April, 1977.

**B. M. SINGH
REGISTRAR**

**BIDHAN CHANDRA KRISHI VISWA
VIDYALAYA P. O. MOHANPUR,
WEST BENGAL**

Advertisement No. APPTL/277

Applications in prescribed forms are invited for the following posts on the scales mentioned below with benefits of C P. Fund, D. A. and other allowances as admissible under the University Rules :—

A. PROFESSOR OF VETERINARY ANATOMY

Qualifications :
Essential :

- (i) Consistently good academic record with first or high second class (B+) Master's degree or recognised equivalent qualification in Veterinary Anatomy following a good Bachelor's degree in Veterinary and Animal Science;

(ii) A doctoral degree in Veterinary Anatomy;

(iii) At least ten year's experience of teaching preferably at Post-graduate level;

(iv) Capacity to conduct and guide research as evident from published papers;

(v) Demonstrated ability of leadership in the field of Research and significant contribution to the progress of Veterinary and Animal Sciences.

Desirable :

Familiarity with the conditions of Veterinary and Animal Sciences in West Bengal.

B. PROFESSOR OF ANIMAL NUTRITION

Qualifications :

Essential :

- (i) Consistently good academic record with first or high second class (B+) Master's degree or recognised equivalent qualification in Agriculture/Animal Science/ Dairy Science/Veterinary Science with specialisation in Animal Nutrition/Genetics & Breeding following a good degree in Agriculture/Animal Science/Dairy Science/Veterinary Science or a good Honours degree in a Science basic for Animal Nutrition/Animal Genetics & Breeding;

(ii) A doctoral degree in relevant subject;

(iii) At least ten years' experience of teaching preferably at Post-graduate level;

(iv) Capacity to conduct and guide research as evident from published papers;

(v) Demonstrated ability of leadership in the field of Research and significant contribution to the progress of Veterinary & Animal Sciences.

Desirable : Familiarity with the conditions of Veterinary and Animal Sciences in West Bengal.

C. PROFESSOR OF ANIMAL PHYSIOLOGY

Qualifications :

Essential :

- (i) Consistently good academic record with first or high second class (B+) Master's degree or recognised equivalent qualifications in Animal Physiology following a Bachelor's degree in Veterinary and Animal Science.

(ii) A doctoral degree in relevant subject;

(iii) At least ten years experience of teaching preferably at Post-graduate level

(iv) Capacity to conduct and guide

research as evident from published papers;

(v) Demonstrated ability of leadership in the field of Research and significant contribution to the progress of Veterinary & Animal Sciences

Desirable : Familiarity with the conditions of Veterinary and Animal Sciences in West Bengal.

D. LECTURER IN VETERINARY ANATOMY

Qualifications :

Essential : (i) Consistently good academic record with first or high Class (B+) Master's degree or recognised equivalent qualification in Veterinary Anatomy following a good Bachelor's degree in Veterinary and Animal Science.

- (ii) A doctoral degree in Veterinary Anatomy or published work of an equally high standard
- (iii) At least two years' experience of teaching/Research in Veterinary Anatomy

E. LECTURER IN ANIMAL PHYSIOLOGY

Qualifications :

Essential : (i) Consistently good academic record with first or high second Class (B+) Master's degree or recognised equivalent qualification in Animal Physiology following a good Bachelor's degree in Veterinary and Animal Science

- (ii) A doctoral degree in relevant subject or published work of an equally high standard

(iii) At least two years' experience of Teaching/Research in Animal Physiology.

F. LECTURER IN BOTANY

Qualifications :

Essential : (i) Consistently good academic record with 1st or 2nd Class (B+) Master's Degree in Botany with specialisation in Plant Physiology and/or Taxonomy;

(ii) A doctoral degree in the relevant subject or published work of an equally high standard;

(iii) At least 2 years experience in Teaching/Research.

G. LECTURER IN CHEMISTRY :

Qualifications :

Essential : (i) Consistently good academic record with 1st or high 2nd class (B+) Master's degree in Biochemistry following a good honours degree in Chemistry;

(ii) A doctoral degree in Bio-Chemistry or published work of an equally high standard;

(iii) At least two years' experience Teaching/Research in Bio-Chemistry.

H. FIELD OFFICER (Temporary under a Scheme)

Qualifications :

Essential : (i) Master's degree in Agricultural Statistics/Statistics or recognised equivalent qualification

OR

Master's degree in Agriculture/Animal Husbandry/Dairying with at least one year training in Statistics from recognised Institute.

Desirable : (i) Administrative experience or Experience of extension work in rural areas or experience in Statistical Sample Surveys.

I. FARM MANAGER (For preparing a panel of Selected Candidates)

Qualifications :

Essential : (i) A good honours degree in Agriculture, (ii) At least three years experience of the Management of a sizeable Agricultural Farm.

Desirable : A M.Sc. (Ag.) degree or recognised equivalent qualification in Agronomy.

Scales of Pay : For posts at A, B & C : Rs. 1500-60-1800-100-2000-125/2-2500/-

For posts at D, E, F & G :

Rs. 700-40-1100-50-1600/-

For posts at H : Rs. 400-40-800-50-950/- (Unrevised)

For posts at I : Rs. 300-25-650/-

Age : For A, B & C preferably below 50 years.

For D to H preferably below 40 years.

For I between 25 and 35 years.

Experience and age limit may be relaxed on the recommendation of the Selection Committee in the case of a candidate otherwise well qualified. A high initial pay in the scale may be granted on the basis of qualifications, experience and present emoluments.

Selection will not necessarily be confined to those who will apply formally.

Applications must be submitted in the prescribed form which may be

obtained from the OFFICE OF THE REGISTRAR, BIDHAN CHANDRA KRISHI VISWA VIDYALAYA, P. O. MOHANPUR, DIST. NADIA, WEST BENGAL personally or by sending self addressed stamped (0.25) paise envelope (25 cm x 12 cm) ON PAYMENT OF RUPEES EIGHT (Rs. 8.00) only for the posts BY CROSSED INDIAN POSTAL ORDER in favour of the BIDHAN CHANDRA KRISHI VISWA VIDYALAYA. Persons already in employment should apply through proper channel. Candidates

in abroad may also apply on plain paper with necessary Postal Order. Applications, completed in all respect should be submitted in an envelope superscribed with the name of the post and must reach the OFFICE OF THE REGISTRAR BY THE 30th April, 1977.

Candidates called for interview will have to appear for the same at their own cost.

REGISTRAR

UNIVERSITY OF DELHI

Advt. No. Estab. IV/40/77

Applications on the prescribed form are invited for the following posts :

S. No.	Department	Designation	Areas of Specialization
1	Botany	i. Two Professors	Plant Physiology, Morphogenesis, Anatomy, Morphology, and Embryology.
		ii. Six Readers	(3 for Centre of Adv. Studies)
		iii. One Lecturer (Temp. upto 31.10.1978)	
2.	Zoology	i. One Reader—Ecology	(including Physiological & Behavioural Ecology).
		ii. Two Animal Attendants	(One reserved for Scheduled Caste)
3	History	Three Readers	
4.	Modern European Languages	i. One Reader in Russian	
		ii. One Lecturer in Italian	
		iii. One Part-time Lecturer in Russian	
5.	Modern Indian Languages	i. One Lecturer in Kannada	
		ii. One Lecturer in Marathi	
6.	Faculty of Law :	Three Lecturers (One Temporary)	
	(a) Campus Law Centre	Two Lecturers (Temporary)	
	(b) Evening Law Centre—1	One Lecturer (Temporary but likely to continue)	
7.	Sociology	Two Lecturers	
8.	Geology	Two Research Associates	(One for Area Study Programme and other for Centre of Advanced Studies)
9.	Economics	One Lab. Attendant (Temp. but likely to continue)	
10.	Anthropology	(Reserved for Scheduled Caste)	
11.	Chemistry	i. One Carpenter (Temp. for the period Ending 28. 2. 1978 but likely to continue).	
		ii. One Lab. Attendant (Temp. but likely to continue)	
		(Reserved for Scheduled Caste)	
12.	Psychology	One Technician	
13.	D. U. Library System (Reprographic Unit)	Four Machine Operators	
14.	Central Office	Seno-typists	

The Scales of Pay of the posts are :

1. Professor	Rs. 1500-60-1800-100-2000-125/2-2500.
2. Reader	Rs. 1200-50-1300-60-1900.
3. Lecturer	Rs. 700-40-1100-50-1600.
4. Research Associate	Rs. 700-40-900-EB-40-1100-50-1300.

5. Part-time

Lecturer	Rs. : 500/- P.M. (fixed) for work-load ranging from 3-6 hours per week.
	Rs. 750/- P.M. (fixed) for work-load ranging from 7-10 hours per week.

6. Technician : Rs. 550-25-750-EB-30-900
7. Carpenter : Rs. 330-8-370-10-400-EB-10-480
8. Steno-typist : Rs. 330-10-380-EB-12-500-EB-15-560
9. Machine Operator : Rs. 260-6-290-EB-6-326-8-366-EB-8-390-10-400
10. Lab. Attendant : Rs. 210-4-250-EB-5-270
11. Animal Attendant : Rs. 196-3-220-EB-3-232

All post carry D. A., C.C.A. and H. R. A. as admissible under the rules in force in the University from time to time.

I. ESSENTIAL QUALIFICATIONS FOR :

1. Professorships :

A Scholar of eminence.

Independent published work of high standard and experience of teaching Post-graduate classes and guiding research for a considerable period desirable.

2. Readerships :

Good academic record with first or high second class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with atleast 5 years' teaching experience in Honours/Post-graduate classes essential.

3. Lectureships / Part-time Lectureship (Except for posts in the Faculty of Law) :

Consistently good academic record with a first or high second class (B+) Master's Degree or an equivalent degree of a foreign University in the subject concerned.

Desirable (in order of preference)

(i) A Doctor's Degree/or Evidence of research work of equivalent standard in the subject concerned.

(ii) Teaching experience of Degree/Post-graduate Classes. Provided that if a teacher is not a Ph. D. at the time of his/her appointment and does not qualify himself/herself for the award of Ph. D. Degree from a recognised University in the subject which is being taught by him/her within the period of five years from the date of his/her appointment or does not give evidence of research work of equal standard within that period in the subject concerned, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements.

4. Lectureships in the Faculty of Law:

Consistently good academic record with a first or high Second class (B+) Master's degree in Law or an equivalent Degree of a foreign University in the subject concerned.

Explanation : Consistently good academic record would mean overall record of all assessments throughout the academic career leading to the Master's Degree, which should at least be B+ or high second class.

5. Research Associates :

Good academic record with first or high second class (B+) Master's Degree or an equivalent degree of a foreign University in Economics.

Note : Initial appointment will be for a tenure period of three years extendable by another two years only. In no case the tenure will extend beyond 5 years in all.

6. Technician :

Must be Science Graduate of a recognised University.

7. Steno-typists

(Certain percentage of the total number of vacancies is reserved for Scheduled Caste, Scheduled Tribes and Ex-service-men) Matriculation with proficiency in Typewriting at a speed of not less than 35 w.p.m. and proficiency in Shorthand at a speed of not less than 80 w.p.m.

Note: Candidates for the posts of Steno-typists will be required to appear and qualify in the tests in General English, Shorthand and Type-writing, to be held by the University.

8. Carpenter

(i) Trade Certificate or Diploma from a recognised Institution, with some experience; (ii) Should have fair knowledge of various kinds of timbers, and should be able to help in selecting timber to suit different jobs; (iii) Should be able to prepare articles of furniture and other laboratory apparatus to accurate dimensions (specifications) of very fine finish.

9. (i) Machine Operator (Offset)

(a) Proficiency in running of Offset Machines-Rotaprint/Romayor/Mallitith; (b) Able to do day-to-day maintenance of the Offset Machines; (c) Three years experience in the trade; (d) Education: Middle Standard.

(ii) Machine Operator (Process Camera);

(a) Proficiency in handling of Automatic/Semi-Automatic Process Camera including multicolour halftone work; (b) Ability to do day-to-day maintenance of the Process equipment; (c) Three years experience in the trade; (d) Knowledge

INDIAN SCHOOL OF MINES

DHANBAD-826004.

Advt. No. 420007/77

Dated April 2, 1977.

Applications are invited for the post of Horticulturist.

Qualifications:

(A) B.Sc. (Agriculture) with 60% marks. (Essential)

(B) Five years experience in horticulture especially in lay out, development and maintenance of parks, flowerbeds, nurseries, etc. (Essential)

Pay Scales: Rs. 425-15-500-EB-15-560-20-700/-

Besides pay, I S M employees get allowances as admissible to Government of India employees.

AGE: Normally not more than 35 years, relaxable for certain categories of candidates.

Further details and general information to candidates and prescribed application forms are obtainable from the Registrar, Indian School of Mines, Dhanbad-826004 on sending a self addressed envelope of size 29 cm x 12 cm, affixed with postage stamp of the value of Rs. 2.65 only. Completed application forms should reach the Registrar on or before April 30, 1977.

Canvassing in any form will be treated as a disqualification.

M. S. RAMAMURTHY
REGISTRAR

of composition of various chemicals used in the process; (e) Education: Middle Standard.

(iii) **Machine Operator (Plate Making)**

(a) Ability to make surface and deep plates for Offset Machines both equipment; (c) Three years experience in the trade; (d) Education: Middle Standard

(iv) **Machine Operator (Micro-filming):**

(a) Ability of handling microfilm and or Microfiche Camera; (b) Day-to-day maintenance of Camera; (c) Education: Middle Standard; (d) Experience: 3 years in the Microfilm and Microfiche work

10. Lab Attendants:

Should have passed the Matriculation or an equivalent examination with Science subjects.

11. Animal Attendants:

Should have passed 8th class examination from the Government recognised school with an experience of working in animal house

II. SPECIAL DESIRABLE QUALIFICATIONS FOR:

1. **Readerships in Botany:** Experience of research in inter-disciplinary areas.

2. **Lectureship in Botany (Temp):** Specialization in Developmental Botany.

1. **Readerships in History:**

1st Post: Modern Indian History

2nd Post: Modern Indian History with proficiency in Economic History

3rd Post: Medieval Indian History, proficiency in handling the Persian Sources.

4. **Readership in Russian:**
(i) Advanced training in translation technique; (ii) Experience in practical translation; (iii) Training in Language Laboratory and material production.

5. **Lectureship in Italian:**
Ability to speak correct Italian. Experience of teaching Italian for 2 years desirable.

6. **Part-time Lectureship in Russian:**
Ability to speak correct Russian.

7. **Lectureships in Kannada and Marathi:**
(i) Fluency in English and/or Hindi; (ii) Training and experience in Comparative Literature.

8. **Lectureships for Evening Law Centre I:**
Specialization and teaching experience in one or more of the following subjects:

Tax Law, Labour Law, Indian Legal and Constitutional History, Law of Property or Public Control of Business.

9. **Lectureship in Sociology:**
Specialization in research methods and statistical and survey techniques.

10. Lectureships in Geology:

Teaching and/or professional experience in recognised organisations in any one or more of the following sub-disciplines of Applied Geology: Hydrogeology; Geophysical Prospecting; Mineral Economics; Mining Geology; Mineral Fuels; Photo-Geology; Engineering Geology Mineral Dressing.

11. Technician:

Diploma in Electrical Electronics with two years' experience.

12. Lab. Attendant in Anthropology:
Should have worked in a Laboratory.

13. Lab. Attendant in Chemistry:

(i) Should have worked in a Laboratory; (ii) Should have a recognised Diploma/Certificate of Electrician of any Government organisation.

The prescribed application form can be had from the Information Office of the University either personally or by sending a self-addressed envelope (5"x11") with postage stamps worth Rs. 2.55.

Selected candidates will have to produce the original documents relating to their age, qualifications, experience, etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of Degrees, other certificates, mark-sheets published research articles, etc. should reach the undersigned not later than 5th May 1977.

Note: 1 It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases, in respect of all posts on the recommendations of the Selection Committee.

2. **Canvassing in any form on behalf of the candidates will disqualify.**

3. **Candidates from outside Delhi for Teaching posts, called for interview, will be paid contribution towards travel expenses equivalent to 1½ single Second Class Rail fare.**

4. **Those who had applied in response to the earlier advertisements for the posts of Readers in Botany and Zoology, need not apply again, but in case they have any additional information to supply, they may do so.**

Registrar
University of Delhi

**CENTRAL INSTITUTE OF
EDUCATION 33-CHHATRA MARG
DELHI-7**

April 9, 1977

Applications are invited for the post of Lecturer in Education (Extension) in the pay scale of Rs. 700-1600 in the Central Institute of Education on the prescribed form along with copies of certificates supporting the facts mentioned in the application.

The selected candidates will be admissible for usual allowances like D.A., C.C.A., H.R.A. as are admissible under the Delhi University rules in force from time to time.

The prescribed application form can be had from the office of the Central Institute of Education, either personally, or by sending a self-addressed envelope with postage stamps worth Rs. 2.40.

Selected candidates will have to produce the original documents relating to their age, qualifications, experience etc. before joining the appointment.

Application accompanied by attested copies of the Degrees and other certificates and published research articles etc. should reach the undersigned not later than April 28, 1977.

Relaxation of any of the qualifications may be made in exceptional cases on the recommendations of the Selection Committee.

Qualifications

1. Consistently good academic record with a First or High second class (B+) Master's Degree in Education or an equivalent degree of a foreign university in the subject.

2. Teaching experience either in higher secondary school or in training college for not less than three years.

3. Experience in organising in-service programmes/educational activities.

Desirable

A Doctor's Degree or evidence of research work of equivalent standard in the subject concerned.

Candidates called for interview from outside Delhi will be paid contribution towards Travelling Expenses equivalent to 1½ Second Class Rail Fare as per rules.

PRINCIPAL

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

Centre of Advanced Studies in Resources Engg.
P. O. I. I. T., Powai, Bombay-400076

Advertisement No. 874/77

Applications on plain paper are invited from the citizens of India for the following posts in the Centre of Advanced Studies in Resources Engineering on or before 30th April, 1977, by the Head, Resources Engineering, I.I.T. Bombay, Powai, Bombay-400076. The posts are temporary for the present tenable for 3 to 4 years and likely to continue. The aim of the Centre is to carry out research and development work in Remote Sensing applications and resources exploitation relevant to the discipline of Mineral exploration and beneficiation, Pedology, Soil Taxonomy, Forestry, Land use and Land Capability etc. with a view to developing technology for rapid integrated surveys for speedy and economic exploration and exploitation of replenishable and non-replenishable natural resources. The Centre is also planning to conduct a post-graduate course in Resources Engineering. The activities of the Centre are interdisciplinary and multi-institutional in character.

The Centre is utilising the existing sophisticated instruments and fulfilled laboratory facilities from various departments including the facilities available in the Computer Centre of the Institute such as EC-1030, MINSK-2 and H. P. 1100A. The Regional Sophisticated Instruments Centre and the central facilities have such modern equipments as Scanning Electron Microscope, Transmission Electron Microscope, Atomic Absorption Spectrophotometer Automatic X-ray Diffraction Unit, NMR, ESR, etc.

POSTS AND SCALES OF PAY:

- Chief Project/Research Engineer/Scientist: Rs. 2000-125/2-2500.
- Sr. Research Engineer/Scientist: Rs. 1500-60-1800-100-2000.
- Project/Research Engineer/Scientist: Rs. 1100-50-1600.
- Asstt. Project/Research Engineer/Scientist: Rs. 700-40-900-EB-40-1100-50-1300.

QUALIFICATIONS AND EXPERIENCE FOR EACH OF THE ABOVE POSTS:

- A good degree in Engineering or Ph.D. in Science with relevant specialisation with at least 10 years experience in the field of specialisation.
- A good degree in Engineering or Ph.D. in Science with relevant specialisation with at least 7 years experience in the field of specialisation.

- A Bachelor's degree in Engineering or Master's degree with at least 5 years experience in the field of specialisation.
- A Bachelor's degree in Engineering or Master's degree in Science with at least 2 years experience in the field of specialisation.

Candidates with a Diploma in Photointerpretation will be given preference. In case of experienced candidates, academic qualifications are relaxable.

Suitably qualified candidates may also be considered for the following positions:—

- Professor : Rs. 1500-60-1800-100-2000-125/2-2500.
- Assistant Professor: Rs. 1200-50-1300-60-1900.
- Lecturer: Rs. 700-40-1100-50-1600.

Candidates already serving as Forest Officers, Pedologists (Soil Scientists), Geohydrologists, Geologists, Geophysicists and Ore Dressing Engineers may be considered for higher starting salary commensurate with their qualifications and experience. Since the Centre is functioning in close collaboration with various National Organisations, services of Scientists and Engineers from Universities' Research Institutions and National Organisations may also be taken on deputation basis. The terms and conditions of deputation will be as per the Government of India rules.

The research and development work is related to the actual field work for project sites anywhere in India and the selected candidates will be required to undertake field work for about six months in a year.

Candidates should furnish complete bio-data including list of research work published, last pay drawn, salary expected etc.

Youth Activities in Universities

(Continued from Page 208)

to wear a superior pose, an attitude of benevolence as if they are on a mission of deliverance. Let us not forget that the rural folk or the slum dwellers, though illiterate, may still be educated and, in some respects, more educated than even the city folk. When the city youth go to the villages they should certainly not go with a sense of superiority, rather they should go with the aim of transmitting the fruits of modern science and technology to the rural and less developed areas and in the process to learn something for themselves.

This is a challenging task, indeed, the task of social and economic reconstruction through voluntary social service by the Youth of India. The task cannot obviously be performed with the help of Governmental agencies alone. The youth of India have a vital and pivotal role to play in this great saga of human adventure. I am sure they would not only accept this challenge but also meet it adequately and nobly.

**INDIAN INSTITUTE OF TECHNOLOGY
BOMBAY, DELHI, KANPUR, KHARAGPUR,
MADRAS AND BHU-INSTITUTE OF
TECHNOLOGY, VARANASI**

**Advertisement No. 872
Direct Admission Notice
(Session 1977-78)**

**FOR RANK-HOLDERS, SCHEDULED CASTE
AND SCHEDULED TRIBE, NATIONAL
SCIENCE TALENT SEARCH SCHOLARS,
FOREIGN NATIONALS AND INDIAN
NATIONALS RESIDING ABROAD, HAVING
FOREIGN QUALIFICATIONS.**

A limited number of seats are available for RH/SC/ST/NSTS Scholars/INRA/Foreign Nationals for direct admission to the first year class of the following courses at the Indian Institutes of Technology and BHU-Institute of Technology, Varanasi, for the session 1977-78.

- (i) Five-year Bachelor's degree course in Aeronautical, Agricultural, Chemical, Ceramics, Civil, Electrical, Electronics and Electrical Communications, Mechanical, Metallurgical and Mining Engineering, Naval Architecture, Textile Technology and Architecture.
- (ii) Five-year integrated M.S. M.Sc. course in Chemistry, Mathematics, Physics, Applied Geology and Exploration Geophysics.
- (iii) Three-year B.Sc. (Hons.) course in Chemistry, Mathematics, Physics and Earth Sciences.

Only those candidates who satisfy the following requirements are eligible to be considered for direct admission:

RANK-HOLDERS

- (i) The candidates must have secured a rank in any of the qualifying examinations, in the current year or in the last year if their results were delayed beyond 8th July 1976, as mentioned in the instructions to candidates to be supplied with the Application Forms.
 - 1st to 10th rank: where the number of candidates appearing in the Board/University Examination in Science stream is more than 50,000.
 - 1st to 5th rank: where the number of candidates appearing in the Board/University Examination in Science stream is more than 20,000 but less than 50,000.
 - 1st to 2nd rank: where the number of candidates appearing in the Board/University Examination in Science stream is more than 10,000 but less than 20,000.
 - 1st rank: where the number of candidates appearing in the Board/University Examination in Science stream is less than 10,000.
- (ii) His/her marks in Chemistry, Mathematics and Physics taken together are not less than 70 per cent.

Scheduled Caste/Scheduled Tribe

The candidates must have secured at least 50 per cent marks in the aggregate in any of the qualifying examinations mentioned in the Instructions to candidates. Marks secured in Chemistry, Mathematics and Physics of such examination shall not also be less than 50 per cent.

Foreign Nationals/Indian Nationals Residing Abroad

- (i) Indian Nationals, who are residing at present in foreign countries for more than one year and receiving school education in foreign countries and are unable to take the Joint Entrance Examination to be held in India on 3rd and 4th May 1977 may seek direct admission.
- (ii) Foreign Nationals for whom seats are reserved by the Government of India must send their applications to the Ministry of External Affairs, Government of India, New Delhi.
- (iii) Foreign Nationals having foreign qualifications must send their completed applications to Indian Institute of Technology, Bombay 400 076. Admission of such candidates will, however, depend on the availability of seats and Their qualifications/merit.

Note: Foreign nationals other than those under (ii) above, having Indian qualifications must take JEE.

National Science Talent Search (NSTS)

The candidates, who have basic qualification which would entitle them to take JEE and have passed the National Science Talent Search Examination, are eligible for admission to Science and Agricultural courses only.

Age: Candidates must not be more than 21 years as on 1st October 1977. Upper age limit is relaxable by five years in the case of Scheduled Caste/Scheduled Tribe candidates, three years for Foreign Nationals, Repatriates and New Migrants.

ALL COMPLETED APPLICATIONS MUST BE SENT TO THE DEPUTY REGISTRAR (ACADEMIC), INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY 400 076

EAST DATE FOR ISSUE OF APPLICATION FORMS: MAY 21, 1977.

LAST DATE FOR RECEIPT OF COMPLETED APPLICATIONS: JUNE 30, 1977.

Detailed information and application forms can be had from the respective Zonal IITs either in person or by post on a written request alongwith a self-addressed unstamped envelope of at least 28 x 13 cm. size superscribed 'DIRECT ADMISSION TO B.Tech./M.Sc./M.S./B.Sc.' together with Indian Postal Order of Re. 1/- (Rupee One Only) payable to 'Indian Institute of Technology.'

Receipt of application forms on a certain date shall not be considered as a valid reason for late submission of applications. Candidates are advised to request for forms well in advance.

UNIVERSITY OF GORAKHPUR
GORAKHPURNo. 136/GA/77 Dated March 31, 1977
ADVERTISEMENT NO. 4

Applications on the prescribed form (8 copies) available from the office of the Registrar on payment of Rs. 5/- for the post of Professor/Reader and Rs. 2/- for the post of lecturer as registration fee payable in cash or Postal Order drawn in favour of the Registrar, University of Gorakhpur, Gorakhpur by name, are invited so as to reach this office through the employer, if employed, not later than 30.4.77 for the following posts :—

qualification (namely doctorate or published work as aforesaid) within 5 years from the date of his appointment.

Provided that where the teacher so appointed fails to attain the prescribed qualification within the said period of 5 years, he shall not be entitled to yearly increments after such period, until he attains such qualifications.

In the case of Faculty of Law, the minimum qualification for the post of Lecturer in the University shall be degree in Master of Law.

3. **Professor**—(a) (Vth five year plan posts—see footnote) 11 posts—one each in the department of Physics, Chemistry (for quantum statistical Mech.) Botany, Zoology, Mathematics, English, Hindi, Political Science, Philosophy Economics and Commerce.
(b) 4 posts—2 permanent, one each in Commerce and Economics; 2 temporary. One each in the department of Botany and Zoology.

Scale of pay :—1500-60-1800-100-2000-125-2500

Qualifications :—

Persons should possess the minimum qualification prescribed for the post of a lecturer as mentioned above, and in addition, the candidate should have a reputation of eminent scholarship and must have published standard research work to his credit and should have considerable experience of guiding research. No teacher appointed before 26 January, 1977 shall be deemed to be qualified for appointment to the post of Reader or Professor if he does not possess the qualifications mentioned above, provided that where the Selection Committee is of the opinion that the research work of a candidate as evidenced by his thesis or by his published work is of a very high standard, it may relax any of the qualifications specified in such clause (b).

In the case of appointment of a Professor, the Committee may with the approval of the Vice-Chancellor consider the names of persons who have not applied.

The candidates will be required to appear for interview, if called, at their own expenses. The Selection Committee may recommend higher initial salary to a person specially qualified for the above posts. It will be open to University not to fill up any post advertised. Canvassing in any form by or on behalf of the candidate will disqualify him.

NOTE :

All posts sanctioned under the 5th five year plan are initially on a temporary basis.

M. G. Gupta
REGISTRAR

1. **Lecturer** 21 posts as under :

Economics	1 (One)	Permanent
Sociology	1 (One)	Temporary
Philosophy	1 (One)	Permanent
Mathematics	2 (Two)	Temporary
Sanskrit	2 (Two)	Out of which one temporary and one permanent
Geography	1 (One)	Temporary
Zoology	2 (Two)	Temporary
English	5 (Five)	Four permanent and one temporary
Law	3 (Three)	Temporary
Statistics	1 (One)	Temporary
Pol. Science	1 (One)	Permanent
Tibetan	1 (One)	Permanent

Scale of pay :—700-40-1100-50-1600

Qualifications :

1. (a) A doctorate in the subject of study concerned or a published work of a High standard in that subject, and
(b) consistently good academic record (that is to say the overall record of all assessments throughout the academic career of a candidate) with first class or high second class (that is to say, with an aggregate of more than 54% marks) Masters degree in the subject concerned or equivalent degree of a foreign University in such subject.

2. Where the Selection Committee is of the opinion that the research work of a candidate as evidenced either by his thesis or by his published work, is of a very high standard, it may relax any of the qualifications specified in sub clause (b) of clause (1).

3. If a candidate possessing a qualification in sub clause (a) of clause (1) is not available or is not considered suitable (due weightage being given to M. Phil or equivalent degree or research work of quality) may be appointed on the condition that he will attain the prescribed

2. **Reader**—(a) (Vth five year plan posts—see footnote) 10 posts—one each in the departments of Military Science; Sanskrit-Pali and Prakrit; Urdu, Sociology, Med. & Mod. History; Geography; Psychology; Fine Arts & Music; Education and Law.

- (b) 4 posts permanent—2 in Chemistry and one each in the departments of Political Science and Law.

Scale of pay—Rs. 1200-50-1300-60-1900

Qualifications—

Persons should possess the minimum qualification prescribed for the post of a Lecturer as mentioned above and in addition, the candidate should have :

- (a) Post-graduate teaching experience of atleast 5 years.
(b) Capacity of conducting and guiding research.

In exceptional cases, the Selection Committee may relax the above qualifications in view of long teaching experience and research work of a high order.

University news

A CHRONICLE OF HIGHER EDUCATION & RESEARCH MAY 1, 1977 80 PAISE



IIT Directors under gherao by the employees of the Indian Institute of Technology, New Delhi